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## Eyes in the Sky—Airplane Photography

HOWARD MINGOS

IN the early days of the war a French poilu performed a bit of arduous duty in no-man's-land for which his captain desired to reward him. Asked what he would like to have, the soldier replied that next to a good meal and a suit of civilian clothes he craved a flight over the lines in a battle-plane.

It took a kilo or so of red tape to arrange it, but it was done. Our hero went aloft. Now, contrary to all the rules in any man's army, he owned a small camera. This he smuggled into the plane; and as the pilot gave him the loop-the-loop, barrel-roll and a few side spins for luck, close to the ground, the soldier amused himself by making snapshots of the terrain behind the trenches.

A few days later he sent the films to his best girl. As usual, the censor was on the job where he was wanted least. He found the films, developed them, traced them back to the embryo aviator, who was arrested for possessing a camera. But hold! For once a buck private had blundered into something besides ill luck.

Back at headquarters the corps commander had seen something in the photographs which amazed him. There lay a fairly good picture of a pestiferous enemy-position, sufficiently clear to show anybody with half an eye that a dose of shrapnel would eliminate a few rat-holes and afford an easy advance. The private was summoned.

"I don't know whether to court-martial you or decorate you," said officer to private. "You've violated the rules by carrying a camera. Yet, you have brought us information we need. You shall go back to Paris and work on larger cameras for this sort of reconnaissance."

Thus by accident and a poilu's whim aerial photography was conceived, one of the most valuable and amazing developments of the war.

The other day Macready and Stevens, the former star altitude pilot and the latter expert cameraman for the United States Army Air Service, went up from McCook Field at Dayton, Ohio, with a new aerial camera. At 20,000 feet over Dayton they commenced "smoking" oxygen to keep alive in the rare atmosphere, which was not only thin but bitter cold.

They climbed upward for an hour. At 32,220 feet the thermometer on the instrument board registered 62½ degrees below zero. Their goggles became frosted in the intense cold. They took them off. Ice formed on their eyelids. As Stevens slapped his hands together to stir up his congealing blood, he was horrified to see his oxygen-tank slip and fall overboard. He commenced losing consciousness immediately; but he had the presence of mind to lean over and make an exposure with his camera aimed at Dayton some six miles below. Macready, aware that if they were to live they must get down to normal breathing-conditions, sent the plane lunging earthward in a tight and narrow spiral. They reached the field safely.

Stevens was helped out of the machine. Refusing medical attention he insisted on being rushed to the laboratory, where he developed the plate he had exposed. He came running out an hour later with the most remarkable photograph ever made—a picture of the entire city of Dayton, nineteen square miles portrayed on a single plate, and that done at a height which made the plane invisible from the earth despite the use of the most powerful glasses.

Stevens is now on leave of absence with the Dr. Rice expedition, exploring the headwaters of the Amazon River. His job is to fly ahead of the expedition photographing sixty-mile stretches of the route. The photographs are then placed under strong magnifying-glasses and the leaders are able to learn exactly what lies ahead of them and the best means of approach. By this method they hope to discover a passable route through



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the Andes Mountains in a section of the country never before penetrated by white men.

Immediately after the war the French passed a law requiring every city in the republic to be resurveyed within three years. By surface methods it could not have been done. But one aerial photo-company surveyed and mapped two hundred large towns within the specified time. The Ministry of Liberated Provinces, confronted with the task of rebuilding devastated areas where property lines had been obliterated by years of war, resorted to aerial surveys and succeeded in restoring every section to its proper place in the official archives of the government.

Everywhere explorers are taking to the air, having decided that by climbing to lofty perches they may better obtain the information required before they seek to penetrate the hidden mysteries of ages. The Mesopotamian desert once irrigated by the Tigris and Euphrates Rivers and because of its fertility famed as the original Garden of Eden, is now being surveyed from planes with a view to reclaiming its charm.

The British government is making a similar survey of the Nile Valley in Egypt as part of a vast colonisation project, seeking first to determine the annual erosion caused by the overflow of the river. The ruins of old civilisations are being photographed on single plates. Archeologists say they can learn more from air maps and project further research operations by that means than if they spent months browsing about in a desert where sandstorms very often wipe out landmarks as quickly as they are established.

All American cities have ordinances prohibiting the smoke nuisance. A flier made some photographs over the heart of a large city. With his finished work he went to the head of an industrial corporation.

"I would like to sell you this picture of your plant made two miles high," he told the executive.

"Not interested. Didn't order the picture. Don't want it."

"Take another look at it and you may change your mind," advised the camera-expert. The other took a good long look. Then he turned to his caller.

"How much do you want for this?"

What he had seen in the picture was his two factory-chimneys belching black smoke which virtually obliterated part of the city, spread dust and dirt throughout the neighborhood and helped shut out the sunlight.

"Oh, we're selling 'em for twenty-five dollars each," replied the photographer, "but sometimes the city officials are willing to pay fifty dollars to get such evidence."

"Well, I'll give you a cheque for a hundred if you'll throw in the plate, and forget about it." And that was that.

One of the greatest menaces in any city is fire along the waterfront. Many fires are caused by floating oil from ships or manufacturing plants, and there are stringent laws against allowing oil to get out into the harbor. But it often happens. The old frigate Granite State, home of the New York naval militia, burned at her dock in the Hudson some time ago. The origin of the fire was a mystery until city officials scanning the aerial news-photographs made of the fire discovered an oil slick floating inshore at that point. They investigated and traced the oil directly to a broken pipe-line on the bottom of the river. In many communities the fire departments are making periodic searches for this dangerous element, using aerial photographs made at intervals at both high and low tides. Fines levied for violation of ordinances more than compensate for the expense involved.

Police are using aerial photographs in a variety of ways. Where there is a traffic problem photographs are made during the rush hours, showing the trend of traffic and its direction. By this means they can obtain an indication of channels whereby much of the traffic may be diverted, thus relieving congestion at certain points. The New York police, using the large municipal aerial map in each precinct, have studied every skylight, roof jointure and back alley, familiarising detectives and plain clothes men with each locality so that they will be better equipped to chase burglars. Likewise, the avenues of escape in and out of the city and between sections have been so charted that the entire city may be guarded within a half-hour's notice. They say it is hardly possible without the aerial map, for there are outlets which are not recorded all together on any one map.

Chambers of commerce and other tradebodies have taken to putting out aerial photographs showing desirable locations for new industries. Railroads are using them to bring important traffic and warehouses close to their terminals and junctions. The New York Central Railroad has in its New York office an aerial map of the La Salle Street Station and surrounding districts in Chicago. By the map the engineers are projecting alterations of the entire district whereby the terminal will be linked up with other rapid-transit facilities in Chicago. There also the city officials have an air-map of the entire rail and water system in Cook County; and they are straightening the Chicago River and improving the entire transportation system.

Boston, Philadelphia, St. Louis, Kansas City



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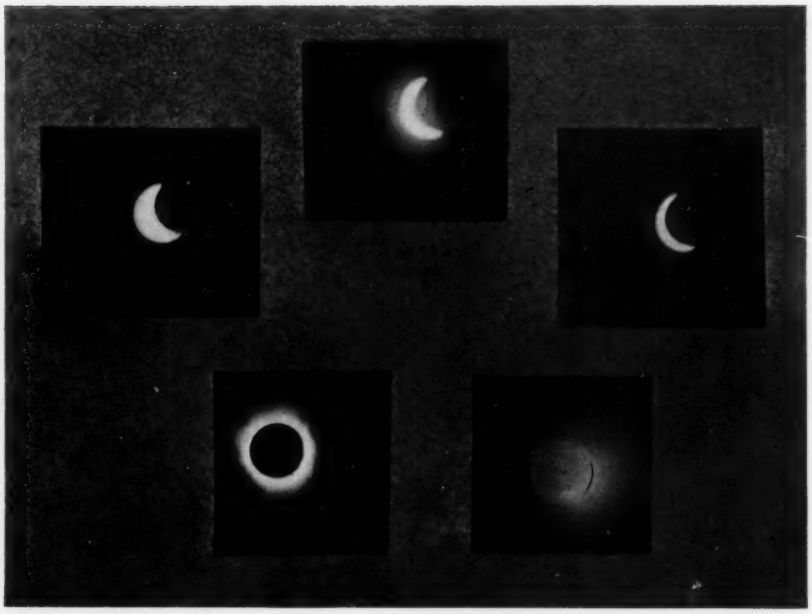
*Official Photograph, U. S. Army Air Service*

*Courtesy National Geographic Magazine*

AIRPLANE VIEW OF MOUNT ADAMS, WASHINGTON

LIEUT. A. W. STEVENS



ECLIPSE PHOTOGRAPHED WITH 35-INCH GOERZ ARTAR FRED SCHMID

and a score or more of other large cities are using air-maps in city-planning operations. New parkways, boulevards, renovation of tenement districts and the location of business blocks and zoning laws are being determined after the city engineers have finished their study of the city as it lies before them photographically.

As this is written, large areas throughout the country are being photographed for reassessment of land valuations. It would be a difficult matter at best for a landowner to employ engineers to submit reports on his property, reports which would be subject to dispute in the assessor's office or in court. But the air photograph, by reason of its accuracy, is past dispute. Its facts do not lend themselves to argument. In the Canal Zone, a close check is kept on land slides and other natural phenomena so that the engineers will know just where to work to keep the canal free for shipping.

When the Erie Railroad piers burned in Jersey City, the insurance companies questioned the amount of damage done. Admittedly the piers had burned, but other damage was a matter of argument. The railroad company, however, had aerial views made showing the paralysed state of traffic throughout the yards and the insurance company finally paid twice the originally estimated amount. In another case where property rights were involved the claimant was able to show to the court and the jury the effect of the sea on his land. He thereby established the extent of injury sustained because of inadequate shore protection by the Government.

The owner of a famous nursery on the Hudson was confronted with the possibility of going out of business because the cost of doing business was greater than the returns. He was compelled to keep a corps of trained salesmen who showed prospective customers over the property every time they wanted to look at shrubs or trees. One day a war pilot, turned aerial photographer, showed him a photograph of the nursery. Today the salesmen have been released for other occupations. The selling is now done at the main office, where aerial photographs show the height and quality of some 350,000 trees and shrubs. There is no more tramping over the rolling acres hundreds of yards from headquarters. The photographs have also been inserted in catalogs and a fair mail-order business has been developed.

The American Red Cross is making air photographs of the congested areas in our cities,



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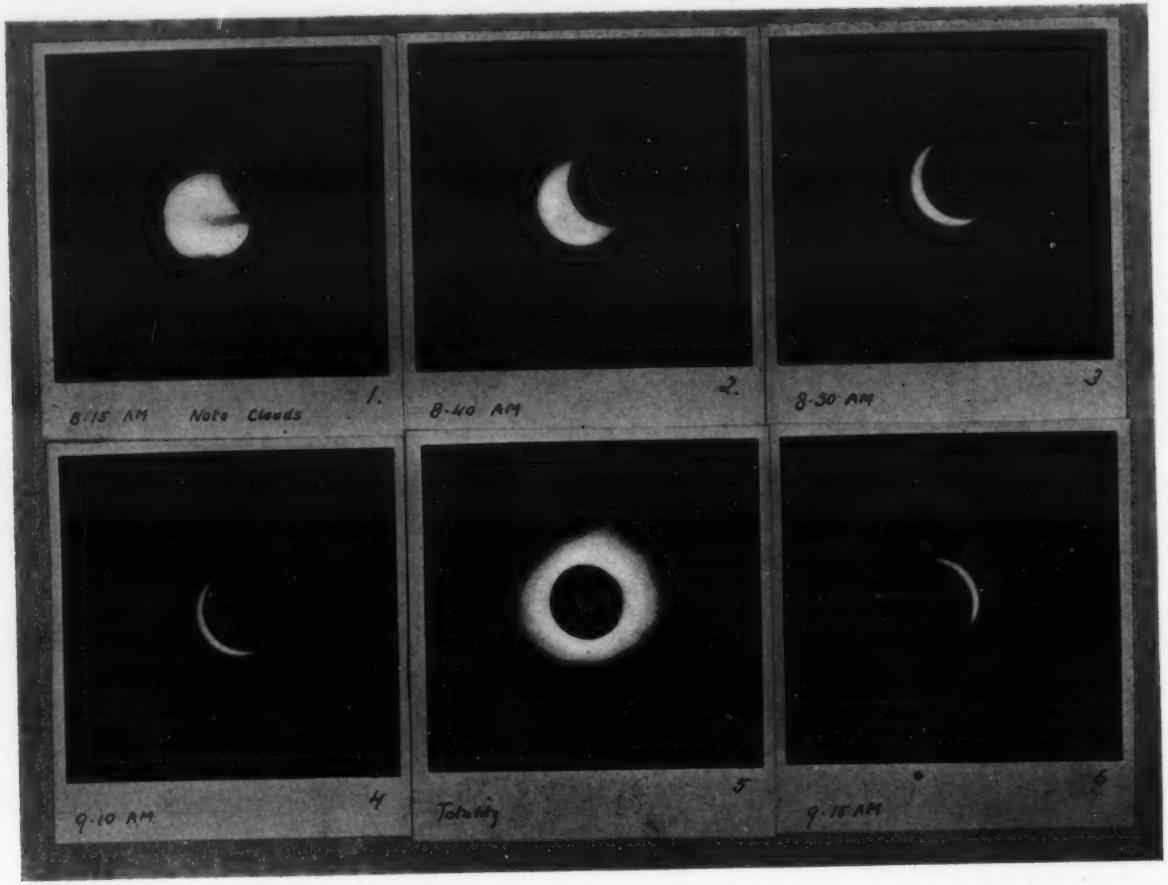
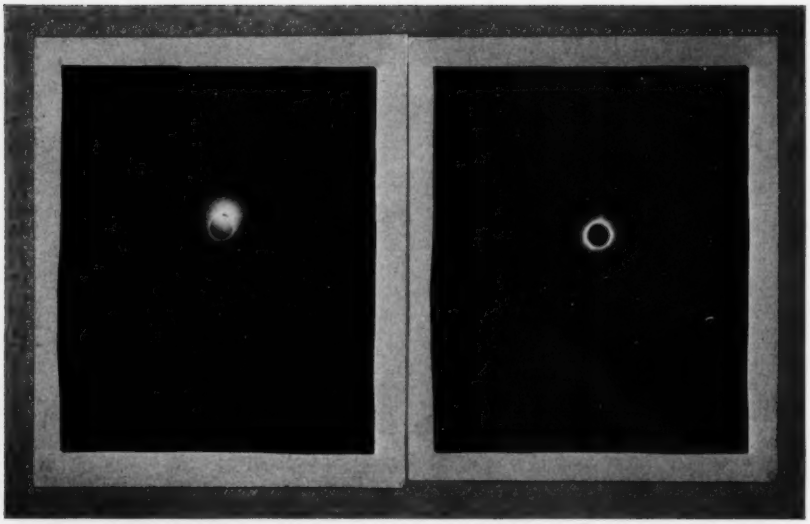



PHOTOGRAPHS OF THE SUN'S ECLIPSE, JANUARY 24, 1925

R. GORBOLD, F.R.G.S., F.R.P.S.



CORONA AND TOTALITY — LIEUT. ROBERT A. CECCHINI

showing where slum-districts have developed through lack of parks and wide thoroughfares.

It is generally known that our coast-lines are gradually falling or rising in various sections, thereby changing the topography of the coast. While the Navy hydrographic office has been making new charts from the air, some of the rum-runners hanging off the coast have adopted similar methods to outwit pursuers. The Coast Guard and harbor-police boats are often heavier craft than those used by the runners, who make it a point to have boats of shallow draught. Often the enforcement agents give chase, to have the loaded rum boats swerve close inshore and disappear in an inlet, leaving the pursuing craft stranded high and dry on a reef or shoals.

The law-enforcement agencies are using old charts, but many of the rum-runners have equipped themselves with aerial photographs, in which they may determine the exact depth of water at certain points, at high or low tide. On the other hand, there is no strange craft lurking offshore which is not photographed from planes. The prohibition agents like to have the evidence. On one occasion they captured a small power-boat, empty, and with its lone passenger loudly protesting his annoyance at such an outrage. Of course, he insisted that he was not a bootlegger.

When his captors showed him a photograph made from a plane, he was too astonished for words. There he was, the central figure on the deck of a rum-runner. That was sufficient evidence to warrant searching him. In a pocket of his coat they found papers proving he was part owner of a liquor-smuggling enterprise. Co-operating with the Pennsylvania National Guard the Philadelphia police are now employing airplanes to trail bootleggers and locate illicit stills and warehouses. Photographs thus obtained are proving the best sort of court evidence against persons accused of engaging in the illegal traffic.

Newer towns in the West are discarding the old method of keeping town-hall records of municipal development. They have profited by the lessons in older communities back East where musty records and frayed diaries must be depended upon to check up and prove land-titles. There are thousands of valuable pieces of property which cannot be sold or developed because title cannot be proved. Today much of the title proving in original transfers is being done by means of aerial photographs with notes photographed across the face of the picture and dated. The sky-map is an everlasting record.

Recall the old-time timber-cruiser with his sled and his dogs, mushing over the North country week after week, laying out areas to be cut by the lumber-gangs which must await his return to camp before the season's cutting can be started. Often the cruiser required months

*Photographic Drawing, Copyright, 1925* *T. W. Kilmer, Jr.*

THE MOMENT OF TOTALITY T. W. KILMER, JR.

for his preliminary survey. Those days have passed and more modern methods are used.

Companies now have airplanes with expert pilots and photographers. They go into the woods with their cameras, flying back and forth hundreds of miles criss-cross and up and down the entire district. They make hundreds of photographs, which are then taken back to camp. There the timber men gather about the developed pictures. They analyse burned-over, blown-down and slashed areas, important spots where reforestation is badly needed and places where the season's cutting can be done best, more easily and at greater profit. The photograph registers all the obstacles and the handicaps. Old log jams hidden away in streams miles from the trails, these must be blown up with explosives before the next cut is floated downstream. All this work is now done in a week or two, where formerly months were required and greater cost was involved.

Saunders, one of the new generation of timber-cruising pilots, had an interesting experience in Canada last winter, where, with his plane mounted on skis, he made an aerial survey in a temperature averaging forty degrees below for weeks. The wind hampered him as much as the cold. He plugged his plane until it was windproof and then he rigged up his camera so that it fitted snugly into the aperture in the floor of the machine. When his radiator froze up on him he substituted kerosene oil for water. When his cold engine failed to start he used a blow torch on the crank case. By landing on snow-



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covered lakes at intervals he was able to pack his films in a special weather-proof container and complete his survey on schedule as arranged.

Usually a party of eight or ten men is required to survey a tract of land, a month for every fifty square miles. In forest-surveying the work is arduous and dangerous. Swarms of poisonous insects attack the surveyors and often make it impossible for them to make correct notes. The history of engineering in out of the way places is replete with instances of hardships endured by the men who blaze new trails and break paths for civilisation. For years they dreamed of overcoming the obstacles. Then came the aerial camera, taking its operators miles in the air away from danger and hardships. Work which required a month can now be done in a single day.

The location of power transmission lines is one of the most difficult projects which engineers have to handle. On account of the high voltage carried in the wires it is imperative that they be kept away from all buildings and timber tracts. For an unknown reason the law prohibits the extension of such lines over cemeteries. And when an engineer sets out to survey a long mileage he is amazed at the number of cemeteries which bob up in his path. Then, again, the old methods of surface surveying permitted of no secrecy.

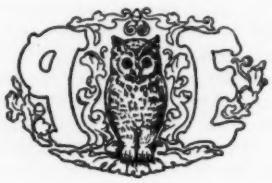
Property owners knew long in advance of the approaching surveyors, who were met with everything from shotguns to bulldogs. Where the owners desired to sell their rights, the charges were sky-high and out of proportion to the value of the proposition. The aerial survey is secret. The United States Air Mail Service projected its transcontinental route and established emergency fields every twenty-five miles or so on the night route between Chicago and Cheyenne, Wyo., before the farmers and other owners knew they were to be approached. Government agents slipped in and made contracts.

The aerial surveyors have many methods of placating property owners. First, the agent usually shows the owner a nice aerial view of his land. After he has admired it sufficiently it is given to him as a present. Two or three weeks later the contracting agent comes through and presents the owner with a set of views of the surrounding country. That does the trick. The owner signs on the dotted line.

Today there is nothing on the surface of the earth that can be concealed from the eye in the sky. The newer aerial cameras, being post-war developments, have the advantages found necessary and lacking during the last war. They weigh from thirty to forty-five pounds and their precision machinery includes more than a thousand separate parts. The average machine carries a roll of film seventy-five feet long and as wide as the large camera plate. On that may be registered as many as one hundred and fifteen separate exposures. By means of a timing-device operated electrically the exposures may be made as rapidly as one every seven and a half seconds or extended to register at the will of the man who is making the pictures. The shutters of these high-speed cameras open and close automatically in a hundredth of a second.

Their value in war cannot be over-estimated. The civilian air-routes now being operated throughout the world are the military highways of the future. They will carry the spies and the observers who, soaring higher than any natural or artificial vision can penetrate, will be able to map out any objective. Registering its impressions from several miles in the air, the camera, unseen, the plane unseen and unheard, will be safe from hindrances of any kind, yet they will make everything below an open book to those who control the plane. Small photographs may be enlarged to show fortifications, even the machine-gun nests. The microscope and aerial camera have already proved capable of laying bare the secrets of camouflage. Here we have another development of the war devoted to peaceful purposes; and, conversely, it is being perfected in advance of another emergency.

*The American Legion Weekly.*





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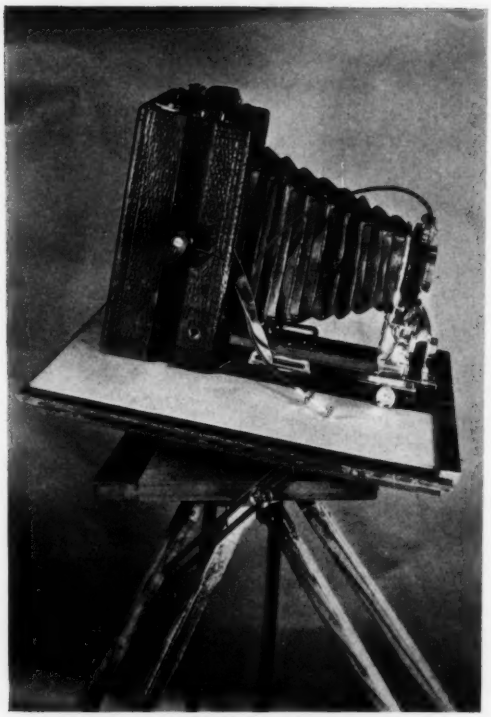
*Official Photograph, U. S. Army Air Service*

*Courtesy National Geographic Magazine*

AIRPLANE VIEW OF PEAKS OF MOUNT WHITNEY

LIEUT. A. W. STEVENS



TILTING-TOP PLATFORM DUANE P. HOTCHKISS

# The Stereograph—a Joy Forever

DUANE P. HOTCHKISS

YOU have often heard it said that, "A thing of beauty is a joy forever". But as a camera-enthusiast, I would like to know how many times you have had the experience of finding a place where the view was such as to offer inspiration to our friend the poet. Then, having trained your favorite camera upon the subject and made the exposure with care, you danced with joy as you lifted what seemed to be a perfect negative out of the fixing-bath, only to have your enthusiasm drop to zero at sight of the first print from it.

As a photograph, it is good and the technique is all one could wish for. Yet, somewhere in the making, all the charm and all the beauty which seemed to be in that particular scene has vanished. It is just a plain photographic record, with nothing about it to excite either interest or admiration. I have had that happen to me many, many times; and, no doubt, all who have taken to photography as a hobby would say the same thing.

Last spring I was talking over this subject with a small group of my friends. We had made an excursion to one of the places locally famous as one of the beauty-spots of our county. We had all made a number of exposures and thought that we were going to get some wonderful pictures. But later on, when we came to compare results, we decided—so far as pictures were concerned—that our trip had been a failure. Not one of the party had a single picture of any merit, either technically or artistically.

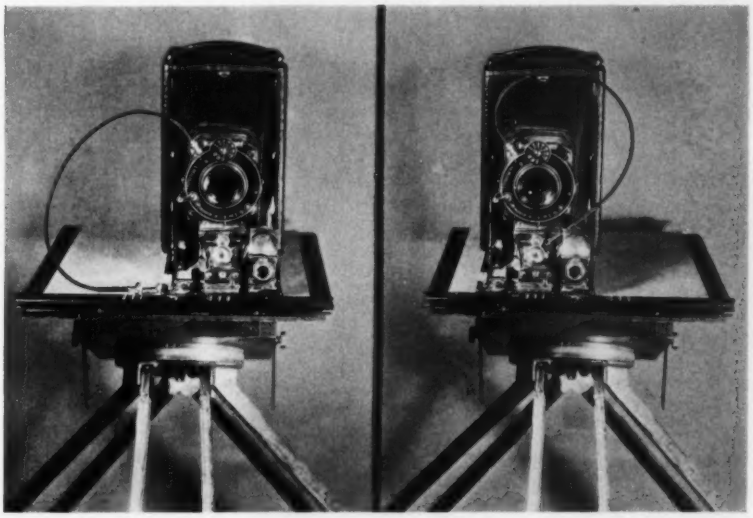
As I was the one who had been making pictures the longest, and had had the most experience, they turned on me with the question, Why?

After some thought, I told them that in this case I believed that to have been successful we should have made stereographs. What do you mean by stereographs, they next wanted to know. Therefore, I began to explain; but did not have to go very far into the details. They had all seen "stereotypes", at some time or other, and a short description of making them sufficed.

The general opinion seemed to be that I was trying to get them interested in something which was old fashioned and out of date—and anyway, no one that we knew had a stereo-camera. How, then, could we make a camera; moreover there was not one among us who could afford to go buy a stereo-camera. So we dropped the subject then and there.

But our little talk set me to thinking. 'Tis a long time since I made my first picture in 1897. I was familiar with "stereotypes" as a child. Yet, after I became interested in photography, I never thought about making them myself 'till just then. But after the talk we had, I wanted to make some in order that I might show my friends that there really was something in the opinion I had expressed. At the time my finances would not allow me to buy a stereo-camera. Therefore, I set about to see what I could devise to take the place of one—and here is what I did.

Having a tilting tripod-top, I made a platform 9½ x 10½ inches to fit on top of it. Then, across the front of this platform, I tacked a strip of flat ½-inch picture-frame moulding, and my stereo-equipment was almost complete. The strip of moulding on the front of the platform served a double purpose. When I set my camera on the platform and pressed it forward against the strip, it was at once squared with the point of view and could be kept square as I slid the camera over for the second exposure. Then, too, the marks cut with my pocket-knife were a gauge to set the camera for the first and second exposures.



METHOD OF USING CAMERA AND PLATFORM — DUANE P. HOTCHKISS

I cut a groove in the center of the strip first, and then on each side of the center at a distance of 1, 1¼ and 1½ inches. I cut three more, and then I was already to step out and make some trial exposures; and it is quite gratifying to be able to say the first ones were fairly successful.

Now, this bit of apparatus is very easily constructed and works like a charm so that any amateur who has a hand-camera, of almost any kind or size, and who happens to be interested in stereo-photography, can rig one up and try it out without going to very much expense. The platform does not need to be quite so large



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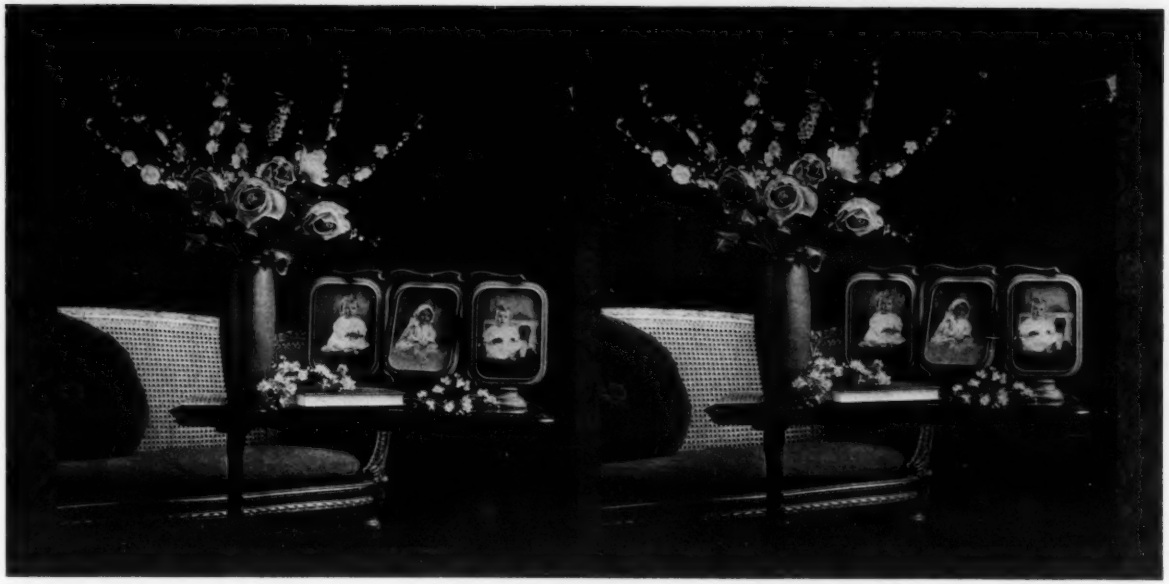

*(Full Size for Viewing in Stereoscope)*

STILL-LIFE STEREOGRAPH

DUANE P. HOTCHKISS

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for small cameras. I made mine that size so that I could use a 5 x 7 camera in case I should happen to wish to do so. But I found a Film-Plate Premo, which uses a film-pack 3 x 5¼ inches in size, the most convenient camera to use of those I had in my equipment.

Of course, one thing should be plain even to a novice—in this method of making stereographs—the subject chosen must be one which does not include anything which is moving or is likely to be moved after the first exposure has been made, and before the second one can be made.

Ordinarily, for average subjects, the lateral movement of the camera between exposures should be about 2¾ inches, if the nearest object in the field of view is quite distant. This lateral movement can be increased. For still-life subjects anyone having a good camera and lens should be able to make just as good stereographs in this way as he could with a stereo-camera. But, of course, for life and action, a twin-lens camera is necessary.

I am enclosing two 5 x 7 photographs to illustrate the device I have attempted to describe, and a set of eight stereographs which I have made in that way.

And so, my dear Mr. Editor, if you find in all this an idea and a suggestion which may prove to be of value to others who follow photography as a hobby—yet who never happened to think of trying to make stereographs, or else thought they couldn't, because they couldn't afford a twin-lens outfit—why I shall be very glad to feel that I have helped some, at least, toward that which is so elusive—"a thing of beauty and a joy forever".

[Those of our readers who wonder whether or not they would like stereophotography will do well to follow the suggestions given in this helpful article. Mr. Hotchkiss points out that a twin-lens camera is necessary for the best work in stereophotography. He does not maintain that his method is stereophotography at its best. However, he does prove by his article and by the excellent stereographs which he sent that the simple method here described will serve to open wide the door to that fascinating branch of photography which is, indeed, "a thing of beauty and a joy forever".—EDITOR.]

# A Tourist Camera-Cabinet

DALE R. VAN HORN

THE camera man is particularly fortunate because he can take his accustomed yearly vacation, and make it pay expenses. He need not plan for weeks in advance; he can take advantage of a break in the weather and strike forth next morning. He need only be a resourceful person, able to discover business while driving along the road. If he contributes to some of the magazines, he should know in advance half a dozen likely markets, what those markets need, and have all demands cataloged in his brain.

Then at any time, at any place he can stop the car, set up the camera and after the picture, be merrily on his way again. If he has unusual success with family portraiture, he should carefully chart his route through the best farming-sections. The white or red buildings of a snug farmstead in a setting of handsome trees denotes a likely prospect.

During the noon-day lunch in a town-park, he will spend ten minutes driving up and down the streets. When his trained eye sights a thriving business, his better judgment will say: "Get thee hence and photograph the proprietor in his loved haunt." The picture or pictures are cataloged and, upon the return-trip, the deliveries can be made and the crisp dollar bills captured.

But, when such a trip is taken, it is desirable to have a suitable container for not only the camera but extra plates or films, and if printing is done, for paper, chemicals and equipment such as filters, extra lenses, and other accessories. A good carrying-case soon becomes bedraggled when stowed away with camping-equipment; it should be housed so well that dust and rough abuse never reach it.

For that reason the drawing of the camera-cabinet is presented herewith. Briefly only the idea is presented, for obviously all dimensions would have to vary according to the size of camera. The cabinet consists of a hardwood-case which is divided into two parts vertically and also two horizontally. The upper deck contains one compartment for the camera in its case, and a smaller compartment to take six, twelve or more plateholders.

The bottom consists of two drawers which



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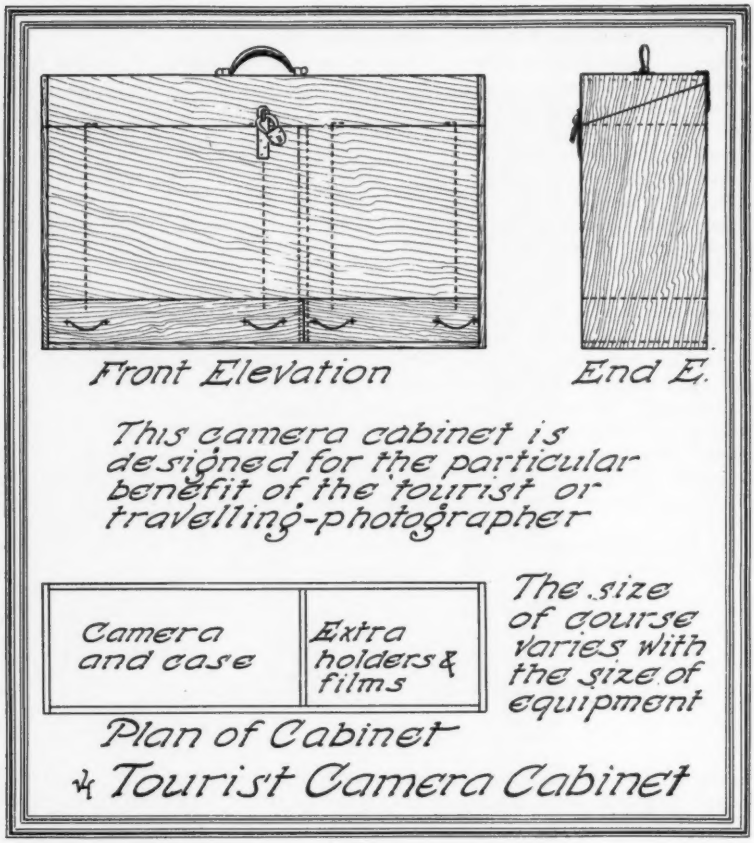
Front Elevation
End E.
This camera cabinet is designed for the particular benefit of the tourist or travelling-photographer
Camera and case
Extra holders & films
The size of course varies with the size of equipment
Plan of Cabinet
Tourist Camera Cabinet

TOURIST CAMERA-CABINET — DALE R. VAN HORN

pull out but are novelly locked with four straight wires which extend down through holes in the front of the cabinet and fit into holes bored for them in the front panels of the drawers. If you find it difficult to bore such small, long holes through such thin wood, cleats can be screwed to the inside of the compartment and the wires run through these. Corresponding cleats or blocks are attached to the inside of the drawers. When the wires are pushed down and the turned-over ends set so that the locked cabinet-top holds them in place, it will be impossible to open the drawers. Thus one padlock, holding hasp and staple together at the top, locks all four compartments.

If you are handy with tools, you will be able to make this cabinet yourself. Use wood one-half inch thick and fit all joints carefully. Provide the top with a handle from an old suit-case or traveling-bag and further strengthen the top with cleats on the under side, for the packed cabinet will weigh anywhere from twenty-five to seventy-five pounds. If you have the cabinet made, better spend a little more and have all corners protected with brass-lugs which are made especially for the purpose.

By all means, line the two upper compartments with cotton-flannel; and, if the drawers are to carry delicate and expensive equipment, too, pad these well with the same soft material.

If this cabinet is made to carry the camera with twelve additional plateholders, you will be able to take thirty-six pictures without refilling. Or, by making the plateholder-compartment

large enough to take the extra holders and two or three dozen boxes of films, the outfit has a potential capacity of fifty or more pictures.

The outside of the cabinet should be given a coat of filler, then two or even three coats of varnish or good, weather-proof paint. Although it is no larger than an ordinary suit-case, this cabinet will confine practically all photographic equipment under one cover, and the design is such that transporting it by hand is convenient.

# Impressions of Central America

EDWARD L. HARRISON

TO me, the Caribbean breathes of the adventurous and romantic past. It is a sea of deep blue waters, fringed with palm-crested shores and canopied with azure skies; a land of flaming sunsets and jewelled nights. I seem to see beyond each low-lying island a rakish craft, filled with savage buccaneers, waiting to spring upon the carved and gilded galleons, to murder, burn and rob. The lands breathe of adventure. All through these smiling and peaceful countries, and over these magic seas, Captain Kidd, Morgan, Teach, Blackbeard and L-Ocelon murdered, burned, tortured, and robbed, until their very names are a byword to this day. The scenes of their crimes are not forgotten. In St. Kitts, Jamaica, Barbados and Tortugas, the stories still linger, and the names are cursed. And it is said that their voices are sometimes heard, on stormy nights, rising in weird chorus, chanting a drunken rhythm among the distant islands.

And the legends of buried treasure are strangely real—a tarnished doubloon, a bit of broken chain, a faded chart are still sufficient to draw men together to speak with bated breath of the chance of finding a fortune, and to spend days and months upon the wildest quests.

Old Panama is but a few blackened stone-towers which stand as gloomy sentinels amidst the tropical jungle, mute and damning evidence of Morgan's hellish work. But the spirit of the old buccaneer still broods over the scene of his crimes, and his heavy tread and clanking cutlass can be heard on the deep, dark nights as he passes over the ruined stone-bridge to wander restlessly amid the fallen stones of the city he pillaged.

The spirits of dead men haunt new Panama also. Thousands upon thousands, rank upon rank, they look down from the leafy heights and tramp through the jungle. In fancy, I have heard their voices giving orders in a strange tongue, above the measured clank of their invisible engines, as they still endeavor with skeleton hands and rusted machines to carry on the task for which they gave their lives with such reckless bravery. And they died by tens of thousands, and died horribly, knowing not that the dread messenger of death was but the seemingly harmless mosquito perched lightly upon

ACROSS THE CARIBBEAN EDWARD L. HARRISON



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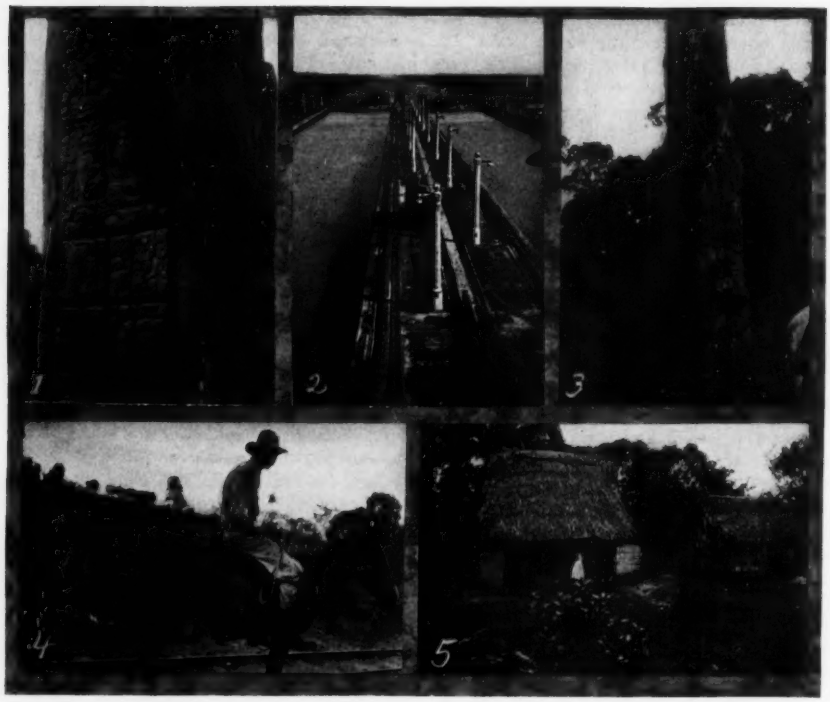

CAMERA SKETCHES OF CENTRAL AMERICA — EDWARD L. HARRISON

1 ANCIENT INSCRIPTION — 2 GATUN LOCKS — 3 OLD MAYAN STELE
4 HORSEMAN, GUATEMALA — 5 GRASS HOUSES, GUATEMALA

their hands—nay, had one told the fact, they would have laughed, and gone on to death unbelieving.

Seventy miles inward from Barrios, in Guatemala, lie some of the ruins of the ancient Mayan nation, the oldest in the New World. Before Augustus Cæsar, before Hannibal, and two thousand years before Columbus found the new world, these people had begun gathering the secrets of science, religion and government, and by the beginning of the Christian era had built up a system of chronology second to none in the Old World. Their sages had timed the sun, moon, and planets, had recorded eclipses and measured the years and recorded them accurately. Their rulers had worked out a practical and stable system of government, which endured nearly as long as that of Greece and Rome, and their mechanics have left an imperishable record of these facts. Their hieroglyphic writing is terse and effective. Three principal symbols prevail: first, the signs of time—days, months, and years; second, signs of persons or places; third, signs of events or objects. Their system of enumeration is both simple and effective—a dot represents one—four dots stand for four. Five is represented by a short bar and with this combination, modified by the position in which the signs are placed, the calendar is recorded so accurately that today the scientist standing before a monument, can read the exact day it was dated, though it were a thousand years ago.

And, strange to relate, upon these time-worn monuments in this obscure land, we find a legend as old as the oldest clay tablets of Assyria—the time-honored story of the flood that destroyed the world—and the record is plausible enough. Ten thousand years ago, in the valley of the Mediterranean, men lived and grazed their flocks in peace—and one night an earthquake rent the rocky wall between the peaceful valley and the wild Atlantic, and loosed the terrific waters upon the fertile fields, and the surviving remnants of the nation so suddenly engulfed, fleeing in



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terror before the awful cataclysm, carried the legend of destruction to all the lands of earth and recorded it in a hundred tongues.

Archaeologists place the Mayan ruins as dating from 500 B. C. to 700 A. D. The general plan shows a temple or group of temples on an elevation thirty feet above the plain and about two hundred feet square. The temple faced south, looking over a paved court two hundred feet by 1,500 feet, with huge stone pedestals, surmounted by monsters, flanking a great flight of steps leading from the temple-plateau to the courtyard. The court was bordered with monolithic carved pylons, or steles, thirty feet in height, weighing about forty tons and inscribed and sculptured on all surfaces, also carved with figures in high relief. The images have hooked noses and high cheek-bones. The pylons are usually tapered toward the top and some of the carving is hand-colored. The stone is a hard, dark gray sandstone.

There are also several great altar-stones scattered about. These are as large as an automobile and of irregular shape, carved on all sides. No doubt, at least ten feet of earth and vegetation deposit covers the whole courtyard and for this reason no small stones are in evidence.

Probably the altars are both ceremonial and decorative in intent and some of the inscriptions have been deciphered, leading to the belief that they were erected on feast days at stated intervals, as a sort of ritual or religious ceremonial. The writing records dates, calendar events, astronomical data, such as eclipse of the sun and moon, and the phases of Mars and Venus.

The heads of the great monsters crowning the pedestals of the temple-stair are full-sized elephant heads, beautifully carved. This carving of the heads of an animal never found in the Western hemisphere, raises instantly the conjecture that this people either came from the Old World or communicated with it at some remote period.

The temples are built of small ashlar blocks on various floor-levels and of several stories each. Probably, there were wood-beams and roof over the walled areas and possibly over the pylons. Cornerstones and sills are inscribed with characters. No doubt, the great temple was a place of public assembly and sun-worship. In its finished condition it must have presented a glorious spectacle when the sun swept from his meridian over the great mountains to the south and smote upon the carved and gilded structure, filled with gaily dressed worshippers, while the priests stood with upliftd hands amid the clouds of burning incense, chanting the service. Indeed, it must have been a remarkable scene.

The imagination speculates how this people have passed from the stage of life. Did the great mountains rain fire upon the land, snuffing out a whole nation with poisonous vapors? Or did the tiny winged messenger of death, the yellow-fever-carrying mosquito, annihilate the race? Whatever the truth, they have passed from history and memory save for the work of their stone-masons, over which the archæologist furrows his brow.

A few words as to photographic equipment and methods. My own outfit consisted of three cameras and at no port did I fail to find film to fit at least one of them. Vest-pocket sizes seem to be most popular and widely distributed. I bought film in moisture-proof containers and in paper-boxes, and could see no difference in results. The much feared tropical humidity had apparently no effect on cameras, lenses or film. None of my instruments were of tropical model. The Graflex was a 2½ x 4¼ model, commonly known as 1A size, fitted specially with a six-inch Carl Zeiss Tessar of F/4.5 aperture and five-time Wallace filter, and it was used wide open at fast shutter-speeds in many cases. In fact, all my lenses were used wide open on this trip, at high shutter-speeds and I have never had better "luck" with films. The tropical light is searching and exposures of 1/100 without filter, and 1/25 to 1/10 with screen, were ample. Many pictures were made at dusk and in the rain, with fair results.

The other two cameras were an Icarette, size 2¼ x 3¼, roll-film model with four-inch Carl Zeiss Tessar F/4.5, and a Goerz roll-film Vest Pocket Tenax with Dogmar F/4.5 lens. The Ica proved the best in the rain, and the vest-pocket was used largely while rambling through the by-paths in search of local color.

The plaster and stone houses and monuments require brief exposures, but the jungle and the complexion of the natives is usually under-exposed. I had a portable, folding tripod along; but did not use it. The light is unquestionably twice as rapid in effect on film as that in the central section of the United States.

One item I would add on another such trip —a good telephoto lens for the larger camera for distant shore-views. Since my return, I have fitted a Plaubel anastigmat fixed-focus telephoto lens to my 1A Graflex, and expect to obtain many attractive bits with this device on the next trip.

Regarding freedom for use of cameras, no difficulty in this respect was encountered during the whole trip; but I understand that it is not wise to attempt to photograph the canal fortifications of which Uncle Sam is justly proud.



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A YELLOWSTONE BEAR — CLAUDE P. FORDYCE

# Outdoors with a Camera

CLAUDE P. FORDYCE

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## Part II. Getting Good Pictures

THE experts will tell you that the greatest cause of failure in amateur photography is underexposure. One firm which does a large photo-finishing business goes so far as to say that not fifty per cent. of the exposures sent in are correct. Exposure is the pivotal point in outdoor photography. Your camera and films or plates are just a means to this end, and the conditions of the atmosphere influence so much the subjects which the outdoor-man has to photograph that only the most expert can rely upon his own judgment in estimating exposure correctly. Erring on the side of overexposure does no particular harm as correction can usually be made in printing.

The only safe plan in exposure is invariably to employ an exposure-meter which calculates on the basis of known speed of film, type of subject, lighting on subject and diaphragm-opening. The actinometer has a piece of sensitive paper which measures the strength of the light which falls on the subject; but it is not the general illumination which makes the picture—it is the light that is reflected *back* from the object that makes the picture and we well know that a white object reflects several hundred times more light than a black object and a polished surface more than a dull finish. The eye is incapable of judging the actinic value of light. Yellow, for example, seems bright to the retina, but in reality it affects the plate only slightly.

The most practical guide for exposure, under all conditions, is the series of tables worked out on a basis of thousands of exposures, as in the Harvey Exposure Meter or the Burroughs Wellcome Exposure Calculator. These consider the time of year and day, the light, subject, speed of film and lens-stop. The Harvey Meter works on the mechanical slide-rule plan. G. L. Harvey says that the small stops help to correct errors in judgment of exact distances when focusing with the focusing-scale. Although these meters supply a chart of the speeds of all plates and films, the difference is not so important as the time required for various subjects under the same light-conditions.

Do not mistake that a strong light and clear air mean speed-exposures; this would result in harsh highlights and unduly heavy shadows; but one can get details and fine tone gradations by giving a longer exposure on a tripod and

using a small stop. The nearer the object, the larger the lens-aperture one should use. Distance requires a very short exposure. Generally, with a three-time color-screen, stop to F/22 and expose 1/10 second. With trees in the foreground, when using a three-time filter, stop to F/16 and expose two seconds.

One of the most difficult pictures to get is a snow-capped peak in the background and dark forest in the foreground. This combination is well illustrated in the pictures of Mt. Rainier made by A. H. Barnes. "The trees of the immediate landscape aid by giving distance and altitude to the subject," says Mr. Barnes, "and these trees, having the least actinic light, require a long exposure and the mountain, forty miles away, outlined on the horizon, displays high actinic rays of white, blue, violet and ultraviolet which require the least exposure. He uses a filter for full color-values, a plate sensitive to this filter, a long-focus lens, a small stop and a long exposure. Thus the exposure data on one of his famous views are: stop ¼ inch, exposure, 30 seconds, at 3.30 P.M. early in October, Isochromatic plate and five minutes' exposure. With a medium filter—three-time—I have given, with good results, two seconds' exposure, stop F/16 orthochromatic film, in mid-afternoon, of a mountain in a near position with an immediate foreground of green slopes and trees in full sunlight.

On glaciers, lessen the exposure to one-third the above. A. H. Denman's exposures of snow-fields in summer, a distant view with clouds, use stop F/32 and 1/50-second exposure with a ray-filter. For winter-views of snow use stop F/16, 1/50 second in a good light; and, if the light is dull, stop to 4 and give 1/25 second. For moonlight-views of nearby snow-peaks with lens wide open, one to three hours, and a snow-covered cabin with lighted windows one hour.

ELK IN TIMBER — CLAUDE P. FORDYCE

For cloud-effects turn the camera to the sun and shield the lens, expose 1/50 with stop F/32. The best cloud-effects are made with the camera on a tripod—expose once for the sky and again on another plate for the ground and combine the two in printing.

Waterfalls and foam reflect brilliantly the white light, so expose quickly to catch the falling spray, then expose fully to get the surrounding rocks, let us say, at a stop of F/16 and 1/50 second and then combine the two in printing. The double exposure is also useful in making camp-interiors. Make 1/50 second exposure to get the windows; and, with the camera in place, cover the windows outside and make a flashlight for shadow-details. In flash-lighting always allow



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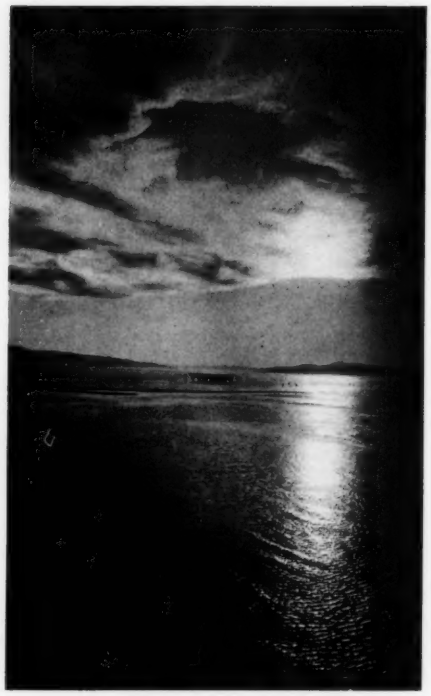


A MOONLIGHT-EFFECT CLAUDE P. FORDYCE

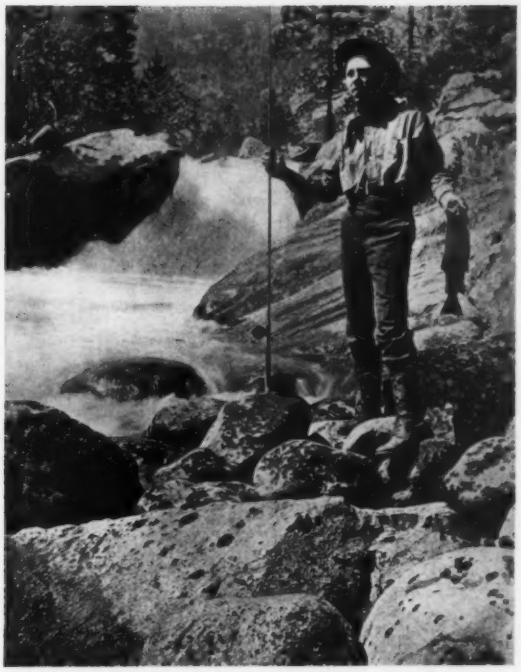
the lights to burn, otherwise people will have an unnatural stare and dilatation of the eye-pupils. In flashlighting a camp-fire scene, have the group face the fire in full view of the camera; arrange the logs in the fireplace so as to shield the lens from the direct light of the camp-fire which should be small; then, if you will throw on a little saltpeter, the fire will flare up like a flame instead of a shapeless glow. Stop the lens to F/6, open the shutter and throw into the fireplace a teaspoonful —better the flashsheets which are recovered if you spill them on the ground—of flashpowder which has been wrapped loosely in a paper.

We do not all have the opportunities at wild-life photography which S. N. Leek of the Jackson Hole enjoys. He is one of the U.S. Government feeders, and the starving elk become quite tame; and, in addition to ease of approach, he gets snow for a background but the majority of amateurs find their quarry in deep woods and on the jump. What would it mean to us now to have pictures of the immense herd of buffalo which roamed our plains not so many years ago? G. W. Shiras, 3d, told me that he was going into the Kaibab Forest last season to study the large herd of mule deer which will soon be in serious peril, on account of failing food supplies. He was also going to try to photograph the famous white-tailed squirrel, which has never been photographed. From personal experience I know that these animals must be photographed in daytime with long-focus lenses or attracted by bait close to a blind in which the camera is placed.

A photographer experienced in wild game-habits directs that one should locate the accustomed habitat of the animals and build a blind two days before making the pictures so that they will get accustomed to it. It must be on the down-wind side of the expected position of the animals; and, if there is no prevailing wind, build several hiding ambushes. Most animals are quick to see a person against the sky; but if an opaque screen is in front of the intruder they will fail to see him. Nocturnal animals will make their own pictures, if a fine black thread—allow for shrinkage when wet—is stretched across their path and connected with an automatic camera and flash-ignition apparatus. This is best arranged with a blank revolver-cartridge fired by a pin or hammer released by a hair-trigger. The powder is pressed down against the end of the cartridge with the wad left out. Electrical apparatus is good, although uncertain, especially in the tropics. Of course, animals will jump at the flash; but they are too late, for their image is already on the plate.

The wild animal photographs of Aeppler and Stierle are some of the best which have been made. They consider the automatic camera the best method for day or night pictures, as it produces more realistic and more certain results than the method of ambush where one's patience is soon exhausted, or the method of using the hand-flashlight which attracts the animal by a headlight. Their flashlight-machine operates the camera. A fine, black silk-thread is stretched across a possible pathway and the other end is attached to a tree or a rock. Deer follow natural paths or runways and are to be found early in the summer feeding on aquatic plants around lakes and go there to escape insects; salt-licks are good places also. Raccoons are to be found along water-courses in search of food. Beaver are hard to get in action and their homes are remote from civilisation.

Moonlight-views, in most cases, are cleverly exposed sunlight-scenes made across the water just after sunrise or a half-hour before sunset, with the camera pointed directly against the sun while it shows through clouds or its rays illuminate the edge of some heavy dark cloud-



THE POSED PICTURE—AVOID IT! CLAUDE P. FORDYCE

mass. An exposure of 1/25 second at stop F/8 brings out the clouds in gorgeous relief, invisible to the naked eye. Such negatives are to be printed quite dark to enhance the "moonlight" effect.

Tank-development by the exact method of timing gives the greatest percentage of good results. The average person cannot well correct an error in exposure in the development, for the judgment of properly developed films or plates is acquired by but few. The tank is the only method in the field; and we urge field-development to check up on results, and in hot climates development soon after exposure is imperative because, even if films are protected in the special damp-proof cans before exposure, they are not after exposure. The roll-film tank with the preliminary transferring of the film to apron is all done in daylight; but darkroom-conditions are needed to transfer the film-pack sheets to the holder which goes into the developing-tank. In my use of autochrome plates, I do the changing in the light-proof changing-bag in which I insert both hands, and even utilise the bag in transferring exposed films into the rack and place them in the tank full of developer. This does not require much room, as I use 2¼ x 3¼ films.

The powders recommended for use with the particular tank are used. Since temperature is most important, a thermometer is an essential part of one's kit. Some washing waters will leave a fine deposit of lime-particles on the emulsion; this is harmless, but is easily removed by swabbing the film with a tuft of wet cotton. In the final washing out of the hypo, I always use one of the so-called "hypo eliminators", which allows one to begin drying the negative in three minutes. One appreciates this method, too, when there is an insufficient supply of water for the usual twelve changes. After the plate has been cleared in the hypo-solution one washes it for a minute and transfers to water to which has been added enough potassium permanganate to turn it a light pink. Hypo will turn this solution clear, so repeat treatments in fresh pink-solutions until no color is discharged and it stays pink. Organic matter will also turn the permanganate solution clear; but not so fast as hypo does. The



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commercial eliminator called "Hypono" is really the most effective for the purpose.

Hot climate photo-finishing meets the first handicap when our solutions do not keep cool enough to proceed with development. Melting of the emulsion occurs on films at 80 degrees F and on plates at 90 degrees. A particular study of getting good negatives under torrid conditions has been made which will enable one to have first-class results, even if the temperature cannot be lowered less than 80 degrees. The procedure is very simple and entails but little extra equipment and is indispensable for hot-climate photography.

For a prolonged journey, films should be procured from the manufacturers with the specification that they be sealed in tropical containers. On a mountaineering trip in Glacier Park, I had all my films so protected and was indeed thankful; for the packs were often thoroughly wetted, but all films came through intact and good pictures were procured. When so encased, films retain their recording-quality for a long time; but when they are taken out, exposed and returned to the can and sealed with adhesive tape they do not keep well and so should be developed as soon as possible.

The principle underlying the process of high temperature development is to harden the film, for we cannot consider cooling the solution; it being, as a rule, impractical under tropical conditions. With proper hardening, films can be developed in a temperature up to 80 degrees—all photo-manuals advise keeping the baths down to 65 degrees under ordinary conditions—and plates up to 90 degrees and we will assume that lower temperatures cannot be obtained.

The hardener may be used either before development or between development and fixing, and both must be carried on in darkroom surroundings unless the preferable tank-method is employed.

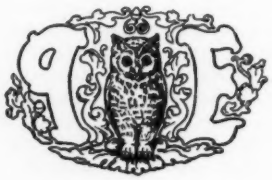
1. Choose any one of the following: *a*. Immerse for five minutes in a bath consisting of formaline five drops and water ten ounces. *b*. Immerse for fifteen minutes in a solution of chrome alum one ounce and water ten ounces. *c*. Immerse for fifteen minutes in alum one-half ounce and water ten ounces. After any one of these hardening-baths, wash the negatives and then put them through the developing-and-fixing processes.

In drying negatives where the air is extremely humid or where the air is dry, with dust blowing, we must hasten the process by immersing the plate in grain alcohol; or, in emergency, immerse for ten minutes in formaline one part and water fifty parts to harden and then pour over the negative water which is just below the boiling point and set before the fire to dry. A cloth-screen will keep dust out.

Necessity once put ingenuity to a test. I was on a wilderness trip and had broken my ground-glass. When my pardner went to the settlement for supplies he called at a store and got some emery dust which I mixed into a thin paste with water; and, placing some of this mixture between two plates which I had cleared of emulsion, I rubbed the two together in a circular motion until both plates had an even and fine-grained ground surface.

In caring for your camera on a trip, three factors are most apt to cause trouble—dampness, dust and cold. Even carrying the camera in a shirt pocket may result in perspiration interfering with the shutter-leaves. Damp salt-air will do the same. Dust is apt to gum up the shutter and move freely in the bellows, thus causing pin-holes in the negatives. Under such conditions, I carry the camera in a balloon-silk sack. If there is much danger of total immersion in water, as on a canoe-trip, one of the tightly-closed plate-tanks will keep every part dry. In winter, have the factory wipe all working parts free of oil and keep the camera outdoors where moisture will not condense on it, for it will indoors and then freeze when carried outdoors.

Photography is a worthy addition to your vacation-trip and its technique is easily acquired. What most amateurs need is more attention to composition and focusing, with a definitely lengthened exposure in most cases. When this is done there will be less haphazard pressing of the button and blaming the photo-finisher for the mistakes he does not make.





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# Practical Kinematography

HERBERT C. McKAY

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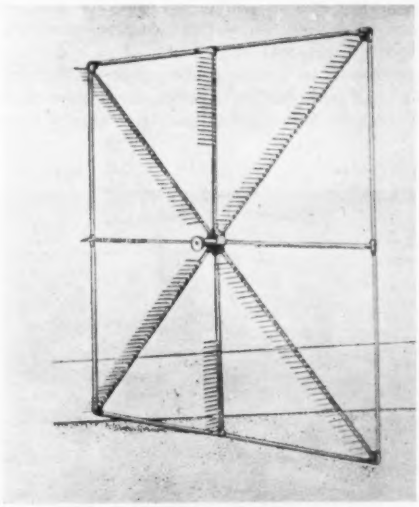
## Chapter V. The Laboratory

IF you are confining your efforts solely to news-work, you will not have to worry about the laboratory-work; for, as soon as your film is exposed, you ship it at once to the news-editor. However, if you are doing industrial work, you will either have to do your own work, or have it done for you in some commercial laboratory. The method chosen depends greatly upon the amount of film you will have. If you have a few fifty to eighty-foot pieces, it will probably be best to do this work at home; but if your exposures run into the hundreds of feet, by all means send it to a large laboratory for finishing where the facilities are at hand.

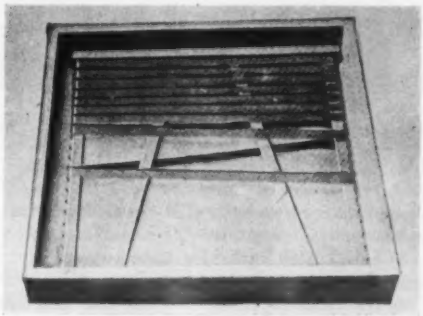
I once superintended the building and equipment of a small kiné-laboratory. I say small,



THE PIN-RACK HERBERT C. McKAY

in the sense that it in no way could be compared to the huge commercial plants; but this small laboratory has a capacity of about 1200 feet per hour which is a fair amount.

The building for this laboratory cost more than $3000, as it was nicely finished in stucco outside. The equipment cost even more than the building. Tanks were installed for regular development, a Stinemann system was also used for emergency and test-work. A complete still development outfit for 8 x 10 photographs was included. The printer was a Bell & Howell continuous, and later a small step-printer was

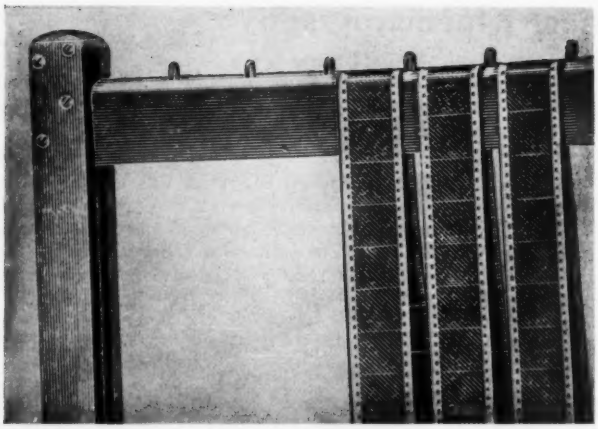


DEVELOPING-TRAY HERBERT C. McKAY

installed. The title-stand was permanent with dark cabinet for double-exposure work, lighted by Cooper-Hewitt lamps. Three drying-drums of 600-feet capacity each were installed. In short, the equipment seemed to be complete, yet the producer who had had this laboratory installed found it economical to have his films finished in a large commercial plant. Why? Because it was most difficult to keep the water for washing the film at the proper temperature, and because it was found to be almost impossible to avoid dust-particles. It would have cost more than the combined cost of building and equipment to have provided for these difficulties. The large laboratories have a water-supply at a constant temperature the year around and the air is washed and filtered before entrance to the workrooms. A bacteriological laboratory is the only place I know of which can be compared to a large film-finishing plant, for the absence of dust.

For home-use you may finish films for yourself; but if you are making industrial films, have it done in a large laboratory.

For this reason, the apparatus I shall describe is limited to comparatively short strips, and



RACK CONSTRUCTION HERBERT C. McKAY

the apparatus may be used in the ordinary dark-room which may be made or improvised.

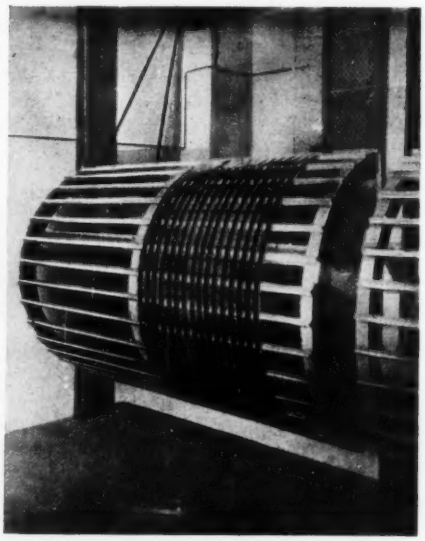
You will need racks for the chemical baths, tanks for these racks and a drying-arrangement. You will also need some kind of a printing-machine. These I will describe later.

The rack is made of two cross-arms with brass-pins inserted as shown in the illustration. The whole affair is painted at intervals with a good tray-enamel. The tray is merely a shallow box large enough to take this rack. The tray should be of cypress or cedar, and made of matched material, that is, with a tongue and groove. When it is assembled, it is warmed over a fire, and painted inside and out with boiling paraffine. This is repeated as long as the wood will absorb the paraffine. Then it is allowed to harden for four to six hours and then painted with tray enamel, followed by a second and third coat of enamel on the two succeeding days. This should give a tray which is thoroughly waterproof.

The following table will give the dimensions of the developing-rack when the pins are placed every one-half inch, beginning three inches from the center.

| *Feet of film* | *Length of arm from center* | *Total length of arm, or diagonal of containing-tank* |
|---|---|---|
| 30 | 8 inches | 16 inches |
| 38 | 9 " | 18 " |
| 47 | 10 " | 20 " |
| 57 | 11 " | 22 " |
| *68 | 12 " | 24 " |
| 80 | 13 " | 26 " |
| 89 | 14 " | 28 " |
| 107 | 15 " | 30 " |

The twenty-four inch rack, marked (*) is the largest which may be handled with ease. This does very well as a fifty-foot rack, for some leeway is desired unless the camera-capacity is strictly limited to fifty feet. It is not always possible to terminate a scene just at fifty feet. The half-inch spacing is better, for it gives plenty of room for developer-action. However, if longer



PROFESSIONAL DRYING-DRUM H. C. McKAY

strips are to be used, or if a compact rack is desired, this may be reduced to three-eighths or even a quarter of an inch. In using a quarter-inch spacing, it is necessary to raise and lower the rack in the solution a dozen times or more, to clear the film of air-bubbles which seem to stick more closely to the closer wound film. It is also good practice to raise and lower the rack each thirty seconds of development. With a timer set to ring at such intervals, this may be easily done, as a fairly deliberate movement is all that is necessary and should not take more than two or three seconds. A quick raise and drop will cause more bubbles.

Beginning 2½ inches from the center the following capacities are obtained, by spacing ¼ inch.

| *Feet of film* | *Length of arm from center* | *Diagonal of required tank* |
|---|---|---|
| 30 | 6 inches | 12 inches |
| 42 | 7 " | 14 " |
| 57 | 8 " | 16 " |
| 73 | 9 " | 18 " |
| 89 | 10 " | 20 " |
| 109 | 11 " | 22 " |

The tank-measurements are the diagonals required. The corresponding sides are:

| *Diagonal* | *Side* | *Diagonal* | *Side* |
|---|---|---|---|
| 12 | 9 | 22 | 16 |
| 14 | 10½ | 24 | 18 |
| 16 | 12 | 26 | 20 |
| 18 | 14 | 28 | 22 |
| 20 | 15½ | 30 | 23 |

These measurements are not mathematically correct, but increased so that there will be operating-room in the tank for the rack.

The developer used for both prints and negatives is the Eastman No. 16 developer; but the same solution should not be used for both negative and positive. The formula for this developer may be found in "Kinematography for the Amateur" or upon the instruction-sheet found in each can of Eastman kiné-film.

The drying-rack is a drum, mounted to turn freely. This drum may be solid, or of slats fastened lengthwise upon the faces of two wheels. If a solid drum is used, three or four additional slats should be used, which are held out from the face of the drum by springs, as the film shrinks in drying; and, if provision were not made to care for this, the film would break or tear loose at the fastened ends. The illustration shows a drum which does very nicely for amateur use. This particular drum is cloth-covered and the film secured at the ends by passing under an elastic band. This allows the film to creep in shrinking; but holds it firmly enough to prevent its flying loose when the drum is revolved at a moderate speed. This drum is made solid, so that it may be used in reversing the 16 mm. film. In exposing the sub-standard film to white light for reversal, it is necessary to prevent the light from striking the back of the film. The film is placed on the drum emulsion-side out and the drum revolved at a speed of from fifteen to one hundred revolutions per minute, thirty being about right.

In constructing the drum, the following calculations are used. The 16 mm. film requires one inch lateral space for each wrapper or layer, and the 38 mm. film requires two inches. Do not attempt to wind too closely. As diameter and length are variable, one has to be made a constant. This is usually the diameter, as bicycle-wheels are often used, and the length made whatever necessary. We must now determine the circumference of the drum. Let us say it is to be twenty inches, and we wish to construct a drum for one hundred feet of film. The circumference will be 62.832 inches, let us say five feet, so upon every two inches of lateral surface we can wind five feet of film, or upon every foot we can wind thirty feet. If we then make the drum three and one-half feet long, we can accommodate one hundred and five feet of film. A given drum has fully double the capacity for 16 mm film. Using this method of calculation we can construct a drum of any given diameter for any given length of film.

Tinting the film is a process usually included in laboratory-work, but it is inadvisable. The Eastman Kodak Company now make positive stock in a number of tinted bases, quite a sufficient range for all ordinary purposes, and the laboratories will use any color directed at a slight additional cost, far less than the cost of dye-tinting. The choice of color is one which requires care. Moonlight and snow pictures look well upon blue stock; fires, volcanoes and so forth upon red. A spring dawn will go on pink stock, and shadowy interiors or interiors whose decorations are delicate will look well upon violet. Violet is also useful in many cases where the scene is supposed to be lighted by artificial light, such as banquets and social affairs. Sunlight is well rendered by yellow film. Many directors have yellow stock used regularly for all out-door scenes which are lighted by medium light; and for very hard lighting such as beaches, deserts and so forth, the amber film is widely used. Black-and-white gives a hard film under almost any circumstances. Sea-scenes are usually printed upon blue or green stock, and scenics or woodland scenes are often printed upon green.

A study of the films shown in theaters will do far more to give a thorough understanding of the proper tints to use than can any amount of



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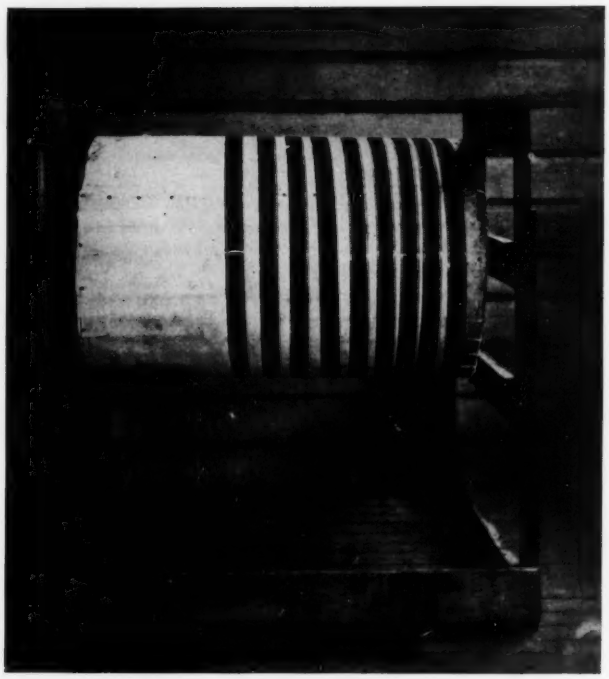


HOME DRYING-DRUM HERBERT C. MCKAY

printed instruction. In fact, go to the theater often. Do not watch the play, but study technique, tinting, titles, direction, make-up, acting, lighting and so forth.

Toning usually helps a film; but it is so costly and difficult that the amateur should not try it. When it has to be done, let the commercial laboratory do it; but avoid it as much as possible. One example which is often used is a dawn-scene, printed upon pink stock and toned blue. Thus the sky and all high-lights are a rosy pink, and the shadows are blue. This is effective in landscape-work; but the film should be hard with heavy shadows, so that the half-light of dawn is imitated.

For the present, we shall omit any consideration of printing, for there are some effects which are obtained in the laboratory rather than in the camera, and these will be considered in the next chapter.

Each film should have titles. If you are doing only news-work, all that is necessary is to write these titles out and send them to the editor; but for other branches of work, you will have to make your own titles. For this purpose the stand and procedure described in "Amateur Kinematography" will serve very well.

Any business which hopes to succeed, must do so largely through advertising. Upon this rule you base your expectations of making advertising-films, so do not overlook the necessity to advertise your own work. One of the most potent forms of advertising in use today is the trade-mark by which each meritorious product is identified as the product of its maker. It is possible to design a trade-mark, simple, easily identified, and capable of being so modified that it may be used in the borders of all titles. In the old days of kinematography, some companies placed their trade-mark on the set and photographed it in every scene. This was a mistake, for it proved objectionable to the spectators. Do not allow your trade-mark to offend; but make it unmistakable. For example, suppose that you call your films, "Independent Films." A circle with the monogram "IF" will appear conspicuously on the introductory title, and after the completion of the film, a tail-piece some

ten feet long appears bearing nothing else. This monogram could be made the basis of advertising, beginning a series of statements, "If ———, If———, If———" Then you cannot afford to be without I. F. representation. However, make use of some kind of easily identified trade-mark.

The title in the body of the film should be made as explained in "Kinematography for the Amateur"; but in advertising-film you need to insert titles of various kinds upon the pictorial film. This work is explained under "Trick Titles" in the portion assigned to advertising-films.

These titles will be finished for you just as is pictorial film, at the commercial laboratory. When the finished film is returned, it is edited in the usual way, by discarding the non-essential footage and joining the various strips of film in their proper order. To those unfamiliar with the process of editing, I recommend "Kinematography for the Amateur" in which all of the steps, technical and mechanical, are explained.

The edition of commercial films requires more study and care than does the edition of home-films, for the commercial films will be viewed by a critical audience.

(*To be continued*)

# By Indian Camp-Fires in the Canadian Rockies

DAN McCOWAN

RESIDING for many years in the heart of the Canadian Rockies, we have long since learned to resist the ever-present impulse to photograph all the marvelous snowy vistas on crisp, clean winter-days, all the wondrous clouds that drift from peak to peak on whistling winds of spring, all the tarns and waterfalls glistening and sparkling in summer-sunshine and all the splendid glories of autumn on the high plateaus. Graceful deer coming daily to the cabin-door for food, are ever attractive subjects, making eloquent appeal to the photographer. Groups of wild goat and sheep feeding on the mountain-slopes nearby seem to lure the camera from its case. Alpine meadows, framed in stately pine or feathery larch, and with backing of snowfield or glacier, are peculiarly tempting to the pictorialist. And so it comes that in a region where familiarity with Nature's handiwork brings not contempt but an ever-increasing admiration, the ardent camera-worker, in course of time, must dilute his wild enthusiasms with sober judgment and look twice before he exposes once.

But there is bound to be reaction to too rigid

INDIAN TRANSPORTATION DAN McCOWAN



XUM

THE GLORY OF PAINT AND FEATHERS DAN McCOWAN

economy in plates and films and perpetual self-denial will in time become monotonous. Hence, when the Assiniboine, the Sarci and the Kootenai Indians gather from the prairies and from the fertile valleys across the Great Divide, to congregate on Beaver flats beside the Sundance Brook; when tepees are pitched and fires of fragrant wood are kindled; when fraternal greetings are made and councils held; when tom-toms throb rhythmically and tribesmen, shedding drab overalls and dusty flannel shirts, emerge transformed in buckskin of almost incredible whiteness, in blankets that are rainbow hued, in eagle plumes that flutter bravely in the breeze—it is then that we throw film discretion to the winds and embark on an orgy of extravagant plate exposure.

So year after year we anticipate eagerly the coming of these "first families" of North America, never failing to be thrilled by the spectacle of the motley cavalcades winding along deep-rutted trails that were blazed and trodden by warrior ancestors. It is good to be greeted anew by these bronzed people; to hear of their simple family joys and domestic happiness is refreshing; even to share their sorrows is a privilege. For they speak of the passing of mutual friends in such a kindly, dignified way, that one is not conscious of personal loss. And when twilight deepens in the valleys, when the sky is sprinkled with stars, it is an honor to sit about the camp-fires in company with the elder members of the tribes, there to hearken to thrilling tales, there to vision in the glowing embers bygone days when Indian knighthood was in flower and the grizzly's claws were worn as a badge of courage.

To obtain pleasing photographic studies from these red-skinned subjects demands considerable tact and patience. If one is personally acquainted with the chiefs and councillors there is usually little difficulty in obtaining such individuals and groups as may be desired for picture-purposes. But they must needs be handled gently and greatly humored, for they are not only extremely temperamental, but inclined to be taciturn. In coaxing an unwilling "brave" or "squaw" to face the camera-lens use was wont to be made of a not unpleasing and somewhat harmless fiction. This to the effect that the resultant photographs were intended for presentation to the Great Queen Mother across the seas or to the Big Chiefs at Ottawa who would be disappointed, nay displeased, to find the noble Rainbow Child and his handsome wife missing from among the celebrities of the tribe. To use such "bait" today might yield results among the Esquimaux or the Dog Ribs in the "Land of Little Sticks"; but the Stonies and the Kootenais are no longer children and may not now be tempted by any such chaff as this. A bromide enlargement or two made from negatives of the Chief of the Tribe or a few contact prints which feature a grandmother who is a popular favorite

A PLEASANT TARRYING-PLACE
MORNING IN THE CAMP
DAN MCCOWAN

XUM

TATANKA CINCA—CALF-CHILD
TAH-OOSA—MOOSE-KILLER
DAN MCCOWAN

are usually highly prized in the lodges. Such camera courtesy and compliment is appreciated by Red Men and White alike, consideration for and knowledge of human traits being no less valuable to the camera-artist who is working among primitive peoples of the wilderness than to the pressman detailed to obtain an unusually difficult news-picture amidst the rush and swirl of city-traffic.

The Assiniboines or Stonies are our nearest Red neighbors. A once powerful nation, closely related to the dreaded Sioux, they have in recent years rapidly decreased in numbers and now form but a small community in the eastern foothills of the Rockies. The men, when not engaged in hunting, give considerable attention to the breeding and rearing of light saddle-horses and polo-ponies. Trading horses or furs to the Scotch factors at the Hudson Bay posts these native sons became extremely astute in all such business-transactions. Now, even a David Harum would need command of all his wits in bargaining with these enterprising dealers in horseflesh. Keen hunters and withal excellent rifle shots, yet, the young men and boys still delight to practice archery and show extraordinary proficiency in the use of the bow and arrow. The women are highly artistic, fashioning quaint designs in beadwork and embroidering exquisite patterns upon fine leather with the dyed quills of the porcupine. Their drawings or sketches of animals such as the horse, the deer and the bison, bear marked similarity to those engraved on the walls of caves in France and Spain by men of the Early Stone Age.

Of all the habitations of mankind, none seem to lend themselves so well to photography as the tepees or lodges of the Indians of North America. Erected by the margin of a placid lake or set amid a grove of dark green trees, these tents are at all times and seasons in perfect harmony with their surroundings. The smoke from wood-fires, placed upon the floor in the interior of the tepee, emerges through a hole at the apex of the cone-shaped structure and in course of time tans the upper parts of the covering until the color resembles that on a well-seasoned meerschaum pipe, merging or shading downwards from deep umber to the light ochre of new-tanned hides of deer or to the white of sun-bleached canvas. Such lodges may be photographed to greatest advantage in a cross light and from a point where part of each dwelling appears in sun and part in shadow. This to give the rounded effect that is so desirable in tree-trunks, in columns and all such photographic subjects. Designs are often placed upon the exterior coverings of these wilderness shelters; some conventional, a few mythological, many extremely fanciful, all more or less gaudily colored. Negatives from these primitive drawings may be made to yield lantern-slides which, when tinted carefully, and in the original colors, are invariably pleasing.

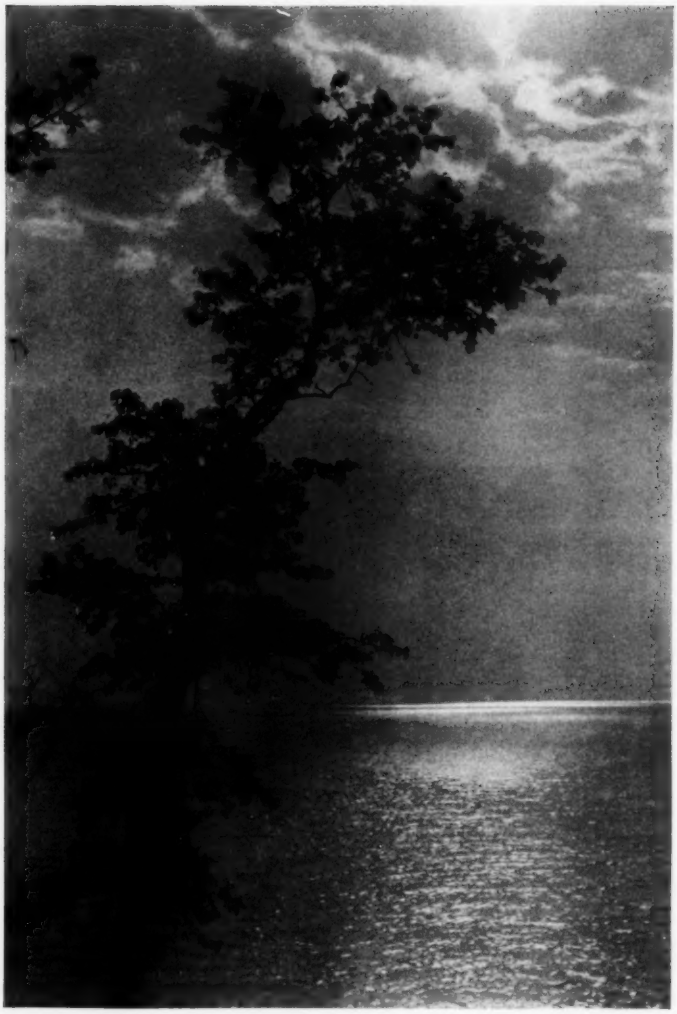
Tah-oosa, or Moose Killer is at present ruling Chief of the Assiniboine Indians. Tall, erect and of graceful carriage, he has watched the waning of many a hunter's moon and has heard the trumpeting of southbound swans for over fourscore seasons. Hearing him speak in the language of his fathers, for he has no other, is like listening to the melody of water running among smooth pebbles and is soothing as the gentle breeze that sets the aspen leaves to quiver in the sunshine. Living among lofty rugged mountains he seems to have acquired part of their dignity, part of their strength, much of their nobility. Standing with arms outstretched towards the rising sun, this bronze-gold viking of the West greets each new dawn and hails the coming day with inborn reverence and with gratitude profound.

Tatanka-Cinca, or Calf-Child, is by far the oldest and most celebrated Medicine Man among the western Indians. Seated upon a white horse and garbed in a magnificent costume of soft, white leather, the edgings of ermine fur, the frilling of eagle-plumes, he presents an imposing appearance. Reserved, aloof and to all appearance living in a bygone age, this venerable patriarch seems to distrust the camera-lens and is not easily photographed. Indeed, one might well stand in extreme awe of this High Priest but for knowing his favorite brand of cigar and his liking for apple pie. His wife, the sunniest soul in all the camps, is referred to lovingly by all the pioneer white settlers as "Leebie". Smiling, chuckling, often crooning the songs of her childhood days, this kindly lady of the lodges is cheerfulness personified, amenable alike to the winking Brownie of the amateur photographer and to the great-eyed Graflex of the pictorialist.

All day long we have moved backwards and forwards throughout this encampment that, set upon flowery meadow at the mountain's base, proves a pleasant tarrying-place. Engrossed by the bustle and activity pervading camp-site and dwellings, busied with films, with cameras and with notebooks we hardly heed the passing of the hours until the light grows wan and dusk creeps upwards from the valley-floor. Soon the last faint amber tint fades from the mountain-peaks. Save for the sound from distant cataract, the soothing hush of evening is unbroken. Flickering fires die down within the silent lodges; a breath of unsunned air strikes chill. Cometh the Night.



XUM



MORNING
WILLIAM T. ADDERLEY

# EDITORIAL

## American Camerists Touring Europe

THE season of foreign travel will soon be in full swing. It is the chief topic of conversation at social clubs. At camera-clubs, too, members are responsive to the call, and among other birds of passage may be the Editor and his better-half. Increasing sales of cameras at the photographic stores is another sign of desires that point overseas. April is the month that takes tourists to the British Isles where springtime is most alluring. Every American tourist who is eager to bring home personally-made photographs of memorable scenes and places will provide himself with a camera that is handy and reliable. Never was the market supplied with so large a variety of attractive and efficient models, and at prices that need not embarrass even the most thrifty individual.

On previous occasions in connection with foreign travel, we have suggested how the camera should be used most advantageously. In the present instance, however, we would point out how the camerist may avoid certain pitfalls while traveling and photographing in foreign lands for the first time. The average American tourist, justly or otherwise, has earned a reputation for deportment that is far from flattering. He seems to forget that what sometimes may be tolerated at home, will be frowned upon in the old countries. The fact that the American tourist may spend his money with a lavish hand, does not deter the cultured European from regarding an occasional ill-bred American visitor with contempt. It would be well if some American tourists were to observe the old saying, "When in Rome, do as the Romans do." If a tourist who is ignorant of the customs and the language of France or Italy engages the services of a well-bred and reliable guide, and follows his suggestions, he cannot seriously err. A good way to win their esteem is promptly to express grateful appreciation by a sincere "I thank you", even for the slightest service. It is not a difficult thing to commit to memory and to pronounce correctly, "*Je vous remercie*", "*Mille grazie*", or "*Ich danke Ihnen*"—foreign standard equivalents for "I thank you".

Citizens of our land of the free have returned from abroad complaining of the numerous signs and warnings of "*Verboten*", "*Défendu*", and "*Proibito*", which they have found annoying. These rules have been established by their respective governments for the benefit of the people, and are obeyed by them without a murmur. Europeans know that America is a land of almost unlimited wealth and natural resources, and a paradise for the opportunist and adventurer. They have heard of our great industries, and of our splendid educational and charitable institutions, and have experienced—many of them—the benefits of our work of aid and relief. And yet they have little affection for our government and for our people. They welcome the American tourist because of the money he spends with them, but rarely admit that he has any other excellence. Yet the real American gentleman is well received everywhere, whether he be a person of wealth or of moderate means. Every patriotic American has a right to be proud of his country; but in resenting adverse criticism, he should exercise moderation. It is not necessary that he should proclaim his nationality, or display the American flag in the chamber of his hotel—as some do—or wear the American emblem in his button-hole. The wearing of this decoration is a fad practised only by American tourists. It may gratify the wearer, but at the same time it announces the presence of "easy marks". And yet it is possible for the educated and well-bred American tourist to engage in friendly intercourse not only with the people of England, France or Italy, but of Germany—our adversary six years ago—and even to form lasting friendships. In public places, as well as when traveling, one ought not to be too eager to make the acquaintance of strangers. Ordinarily, it may be better to let the others take the initiative. It should be remembered that the old saying, "Familiarity breeds contempt", originated in Europe, where it is carefully observed. For all that, the true American gentleman, than whom there is no superior, commands universal respect. It is only of late years that the other sort has become embarrassingly numerous overseas. The touring camerist will find the European photo-supply dealers very obliging, although as photo-finishers, unfortunately, they are not uniformly efficient. The recognised Kodak-agencies are preferable; but to photo-finish exposed films, they need sufficient time to do them justice.



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# ADVANCED COMPETITION

**Closing the last day of every month**
**Address all prints to PHOTO-ERA MAGAZINE, Advanced Competition**
**Wolfeboro, New Hampshire, U.S.A.**

## Prizes

*First Prize:* Value $10.00.
*Second Prize:* Value $5.00.
*Third Prize:* Value $3.00.

*Honorable Mention:* (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the Publisher.

(*b*) Those who win an Honorable Mention Award and are *already subscribers* will receive a credit of $1.00 toward the purchase of any standard photographic textbook. This credit to be used within thirty days of receipt in the U.S.A., and within ninety days overseas.

Prizes may be chosen by the winners, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books. If preferred, the winner of a first prize may have a solid silver cup, suitably engraved.

No Prize or Honorable Mention pictures are sold, exchanged or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones*, go to the maker of the picture.

All competition-pictures not returned are used to make up the PHOTO-ERA PICTURE EXHIBIT which is sent to schools, libraries, museums, camera clubs and to responsible organisations for exhibition-purposes, *free of cost*.

## Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. Not more than two subjects may be entered, but they must represent, throughout, the personal, unaided work of competitors. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered into competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

3. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations and detail. Prints may be mounted or unmounted.

4. Each print must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately*, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer, and printing-process. Enclose return-postage. Data-blanks sent at request.

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he shall have received official recognition.

6. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces is sent with data. Criticism at request.

7. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right-angles to each other.

8. Competitors who have won three first prizes within a twelve-month become ineligible to compete for prizes in this competition for two years thereafter.

## Awards—Advanced Competition

### My Home

### Closed January 31, 1925

*First Prize:* J. Vildensky.
*Second Prize:* Elsa B. Versfelt.
*Third Prize:* J. Kirkland Hodges.

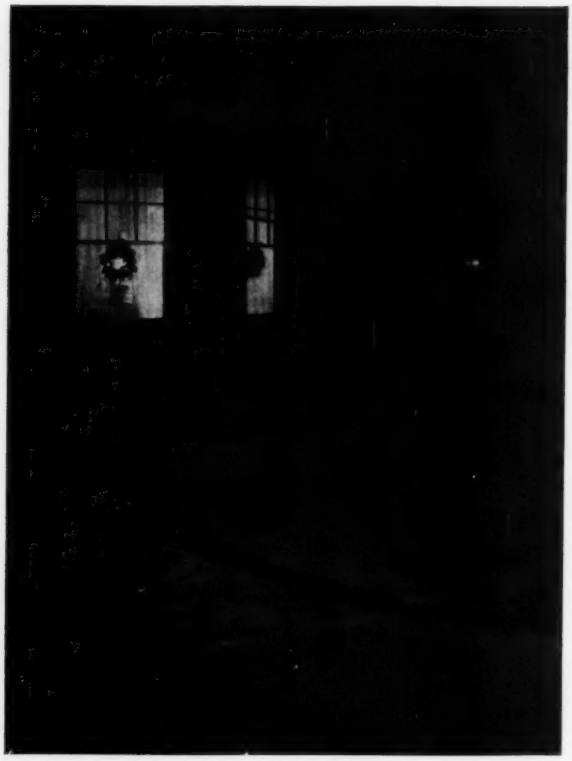
*Honorable Mention:* William F. Anderson; James D. Creegan; L. J. Creegan; F. S. Dellenbaugh, Jr.; H. Onishi; M. J. Pecora; A. T. Russell.

## Subjects for Competition—1925

"My Home." Closes January 31.
"Miscellaneous." Closes February 28.
"Indoor-Genres." Closes March 31.
"Table-Top Photography." Closes April 30.
"Artificial Light Photographs." Closes May 31.
"Miscellaneous." Closes June 30.
"Front-Cover Illustrations." Closes July 31.
"Real Sunrise and Sunset Pictures." August 31.
"Wild and Cultivated Trees." Closes September 30.
"Miscellaneous." Closes October 31.
"Lakes, Rivers and Brooks." Closes November 30.
"Interesting People and Places." Closes Dec. 31.

**Photo-Era Prize-Cup**

A CALIFORNIA PIONEER
J. VILDENSKY
FIRST PRIZE—MY HOME COMPETITION



CHRISTMAS-EVE ELSA B. VERSFELT

SECOND PRIZE—MY HOME COMPETITION

### Advanced Competition

In "A California Pioneer", on the preceding page, the artist seems to have made the most of an inviting subject. The conception is one of beauty and simplicity, and the treatment shows depth of feeling and artistic resourcefulness. It is the lighting, however, with its attendant shadows, that is the picture's glory. Masterfully, indeed, has Mr. Vildensky used this means to give life and beauty to this quiet, restful scene—an ideal home, so far as outward appearances go. Wisely was the hour of the exposure chosen; for it not only yielded a foreground that is in shadow, but just enough small, supplementary shadows to break the monotony of the front-wall and the floor of the porch. How easily this effect might have been overdone, resulting in a design at once confused and restless. The setting is in a low key, thereby directing the eye of the observer to the sunlit porch, which seems to offer a welcome to the visitor. If one were to look for defects in this pictorial design, he might discover one in the dark multiple tree-trunk which occupies the central space above the roof of the cottage, and another in the seemingly over-darkened sky—by artificial means, it may be. To have removed the somewhat objectionable tree-trunks from the negative—a simple and pardonable act—would present a sky of quieter aspect. Notwithstanding, the picture can hold its own by reason of dominating excellences.

Data: June; sun shining; 6 P.M.; Ica Trona camera; 5¾-inch Carl Zeiss Tessar, F/4.5; stop, F/8; 1/25 second; Eastman Film Pack; pyro, tank-development; enlarged on Artura Carbon Black, E, Smooth.

What the beholder will be quick to appreciate, in "Christmas-Eve", is the admirable artistic judgment the maker showed in placing the two lighted windows just where they are. He cannot fail to admire, particularly, the technique. It is superb. Nothing finer, of the sort, has it been my privilege to behold. The darkness has been rendered with remarkable fidelity, revealing much detail which, in a daylight-exposure, might appear objectionable. The windows, too, show detail, the curtains, but in a subdued degree. Then, those two tiny lights, in the distance, very properly relieve the impenetrable darkness in that locality. The artist surely is to be credited with an originally conceived and successfully interpreted theme of rare technical difficulty.

Data: Premo No. 9; Rapid Rectilinear; stop, F/8;

exposure, at night, 30 minutes; Seed 26 plate; Actirol tray-development; print, Palladiotype, Warm Black.

In interpreting the present subject, Mr. Hodges went far afield, offering a temporary home placed in the great out-doors. It is a legitimate choice and will be welcomed heartily by our host of observers. The scene, here unfolded, is one of inspiring grandeur —a beauty-spot in the vast Canadian Rockies. The subject is probably the finest of many pictorial contributions with which the artist—an enthusiastic worker—has favored this publication. A better place in the enclosure could not have been selected. Situated at the right, between stately evergreens, and beneath what appears to be a great glacier, the commodious tent attracts the eye. Shadows of tall trees decorate the immediate foreground, while no objects disturb the beauty and tranquillity of the landscape. It is a scene that shows this celebrated mountain-region at its best and, doubtless, will exert a spell to which many of our readers will succumb. If so, the artist will have won a victory, in addition to the one in the present competition.

WHERE ALL NATURE IS MY HOME — J. KIRKLAND HODGES

THIRD PRIZE—MY HOME COMPETITION

Data: Canadian Rockies; August, 10 A.M.; sunlight; 2¼ x 3¼ Graflex; Tessar lens; stop, F/6.3; 1/95 second; Eastman Roll Film; Rytol; enlarged on P. M. C. Bromide.

WILFRED A. FRENCH.

## Cleaning Up

THE utensils used in photography should always be kept meticulously clean; but this is not always as easy as it seems; so we think a little advice will not be amiss. For graduated glasses, a careful washing is usually sufficient; but it is best to use warm water with soap, or the following, which quickly removes organic matter: Potassium bichromate 5 parts, sulphuric acid 5 parts, water 100 parts. First dissolve the bichromate in the water, then add slowly the sulphuric acid, stirring constantly. Take great care *never* to add the water to the sulphuric acid, which would produce an explosion.

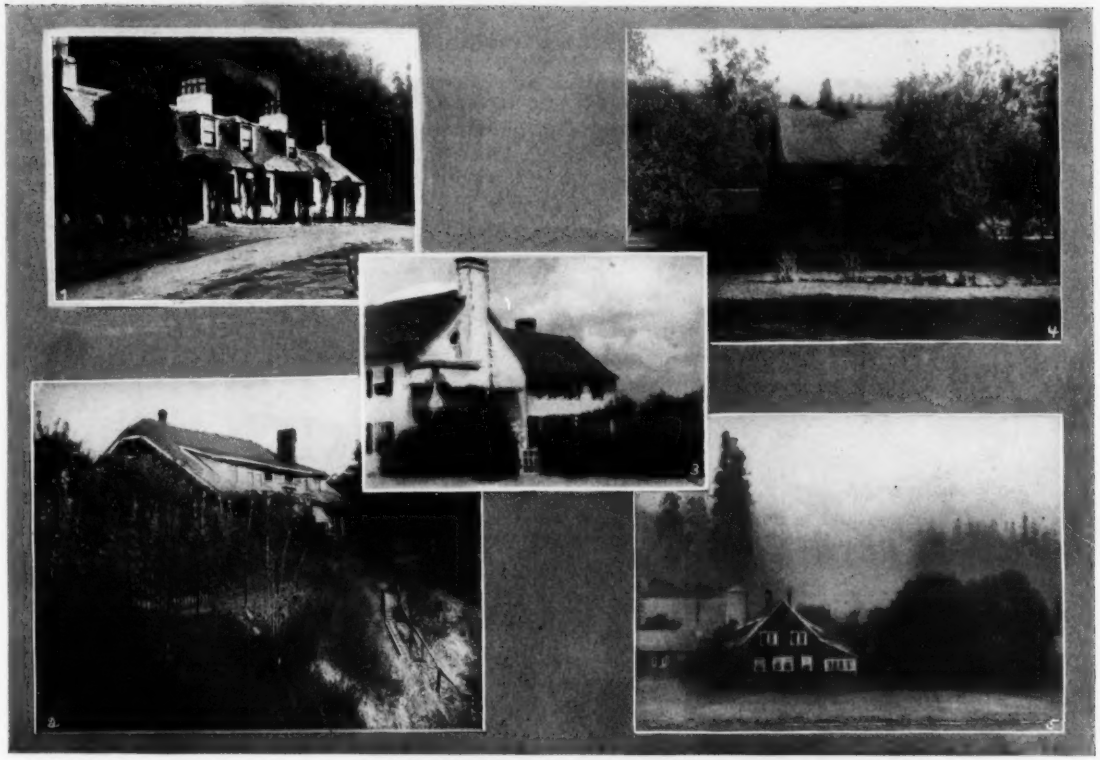
Hypo is a dangerous enemy when found anywhere but in a fixing or toning-bath; so it should be an inviolable rule never to employ the tray in which the fixing-bath is used for any other purpose. If, however, unavoidable circumstances should make it necessary to do so, when done with, it is best to fill the tray with a hot solution of carbonate of soda, allow it to soak for quite a time and then wash carefully and rinse in fresh water; it may then be used for its regular purpose.

To remove spots produced by developer use a dilute solution of sulphuric acid. A strong solution of citric acid will remove pyro-stains when fresh. Most acids will clean off iron-stains on glasses, porcelain, etc. Silver-stains will not resist ammonia.

*La Photo. pour Tous.*

## To Render Negative-Paper Transparent

A NEW method to render transparent negatives on paper is given in a recent number of *Il Corriere Fotografico:* Dissolve in a hot-water bath 2 grammes of Venice turpentine in 10 cc. spirits of turpentine; then add while stirring vigorously, 20 cc. of castor-oil, 5 cc. chloroform and 2 grms. vaseline. This mixture is applied to the back of the negative with a hard brush. To assist penetration, pass over the back a hot smoothing-iron, interposing a sheet of parchment or ledger paper to facilitate the operation.



SELECTED HONORABLE MENTION GROUP—MY HOME COMPETITION

1 *Beckin Lums*
*Wm. F. Anderson*

2 *A Home on the Willamette*
*A. T. Russell*

3 *My Home*
*F. S. Dellenbaugh, Jr.*

4 *An Orchard Homestead*
*James D. Creegan*

5 *A Smoky Day*
*H. Onishi*

XUM

SUBJECT FOR NEXT COMPETITION

# ADVANCED WORKERS

FAIRHAVEN TOWN-HALL BY NIGHT — HERBERT J. HARPER

ARTIFICIAL LIGHT PHOTOGRAPHS

## Advanced Competition—Artificial Light Photographs
## Closes May 31, 1925

THE making of pictures by artificial light is at once fascinating and productive of exceptional experience in composition and illumination. Moreover, it need not be assumed that it is beyond the ability of the average worker and his equipment. It is not necessary to use expensive lamps or to risk any danger from flashpowder, if the photographer so elects. The modern portrait lamp and the present-day flashlight-outfit have reduced the danger to such a degree that even beginners may obtain excellent results by simply following directions. However, let me repeat the advice to follow directions.

As to subjects, there are many indoors and outdoors, provided the worker has the eyes to see them. Those who live in cities and towns, where there are electric lights, will have many opportunities at home or at night along the city-streets and among public buildings. In communities where recourse is still had to oil-lamps or candles, there are worthwhile subjects which will test the photographer's skill and add greatly to the pleasure of accomplishment. The charm of the home-circle, the winter-night along the street, the baby at play, the illuminated public building, mother reading and many other subjects will suggest themselves—all of which may be photographed by the intelligent use of artificial light. Moreover, there is no reason to omit good still-life subjects.

Obviously, in artificial light pictures the test comes in the matter of exposure, illumination and composition. For this very reason it appeals to the really interested worker. There will always be those to whom any thing of this sort will be a bother; but I believe that most readers of PHOTO-ERA MAGAZINE realise that success in photography, or anything else, is not won by lolling on "flowery beds of ease". Surely a radio-set is not built or a cross-word puzzle solved without making some personal effort; yet, in photography witness how many seem to think otherwise. Therefore, those of my readers who are really eager to make progress will not merely read these lines and forget to act, but they will prove to themselves and to others the stuff they're made of—how sincere they are about photography and making a success of it.

A. H. BEARDSLEY.



XUM

# BEGINNERS' COMPETITION

**Closing the last day of every month**
**Address all prints to PHOTO-ERA MAGAZINE, Beginners' Competition**
**Wolfeboro, New Hampshire, U.S.A.**

## Prizes

*First Prize:* Value $5.00.
*Second Prize:* Value $2.00.

*Honorable Mention:* (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the Publisher.

(*b*) Those who win an Honorable Mention Award and are *already subscribers* will receive a credit of $1.00 toward the purchase of any standard photographic textbook. This credit to be used within thirty days of receipt in the U.S.A., and within ninety days overseas.

Prizes, chosen by the winner, will be awarded in photo-materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books.

No Prize or Honorable Mention pictures are sold, exchanged or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones*, go to the maker of the picture.

## Rules

1. This competition is open only to beginners of not more than *two* years' practical camera-activity, and whose work submitted here is without any practical help from friend or professional expert.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints and enlargements up to and including 8 x 10 inches.

4. Prints representing no more than *two* different subjects, for any one competition, and printed in any medium except blue-print, may be entered. Prints may be mounted or unmounted, as desired. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

5. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations and detail.

6. Each print entered must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately*, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks sent at request. Criticism at request.

7. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he has received official recognition.

8. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with data.

9. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right-angles to each other.

## Awards—Beginners' Competition
## Subject—Miscellaneous
## Closed January 31, 1925

*First Prize:* John H. Kemp, Jr.
*Second Prize:* Henry Sill.

*Honorable Mention:* James Lee; Henry A. Lyner; Paul L. Miller; S. B. Priest; Irving Sparks.

## The Usual Spring Camera-Problem

IN this case I do not refer to that ailment which is commonly called "spring fever", although many are stricken with it every year at this time. I have in mind the annual spring problem of what photographic equipment to buy or not to buy—of what outfit to exchange or not to exchange. Some may say that the beginner is not deeply enough immersed in photography to have any problem in this direction. However, let me say that from the moment that the original box-camera, with which he began his photographic career, seems to him to have served its purpose, from that moment he will face the problem of getting another outfit. To be sure, his problem may be simply that of buying or exchanging his box-camera for a folding model. He may not have arrived at a point where the speed of lenses and shutters has any practical value for him. However, he does like the idea of a folding-camera, and there lies his first problem, *viz.*: how to get a folding-camera and where.

Now there are some points which might well be brought out in connection with this buying and exchanging of cameras by the beginner—or by anyone else, for that matter. If the underlying reason to discard the present equipment is due to a real or an assumed defect in the camera and poor results have been the rule and not the exception, then, let me suggest that no change be made until it is definitely proved whether it is the camera or the beginner who is to blame for unsatisfactory pictures. More photographic careers have been nipped in the bud by this germ of exchanging or selling a camera the moment poor results are obtained than by any other means that I know. It is human to blame the equipment first and to dislike to admit that it is one's own lack of skill and knowledge that produced the unsatisfactory results. However, most times the equipment is blameless; but it is sold or exchanged, nevertheless, as a sort of sacrifice-offering to appease our ruffled feelings. This should not be. No camera should be sold or exchanged until we have made good with it or it is clearly proved to be out of order. My experience leads me to say that only rarely can photographic failure be blamed entirely on the camera. Competition is too keen these days for any manufacturer to risk his reputation by letting an imperfect camera leave his factory. Hence, if the sole reason to make a change of cameras is merely poor results, wait and get at the true cause, which, very likely, will be one's very good self.

There are some who delight in high-grade photographic equipment and have the means to buy it. However, their pleasure is solely in the pride of possession and not in the use of the outfit. These good

A BIT OF YALE — JOHN H. KEMP, JR.
FIRST PRIZE—BEGINNERS' COMPETITION

friends keep exchanging and buying cameras and lenses, always with the announced purpose to obtain just the right equipment for their work—what their particular work really is, no one ever knows.

From the experience of a number of years and the observation of all types of amateur and professional photographers, I am led to urge my readers never to exchange or buy a new camera until the old camera has been mastered and until good pictures have been made with it for at least one season. To obtain a better camera is the part of wisdom and should be encouraged, always. However, let not the old camera be cast aside until it has served to prepare the beginner to use the new camera successfully. Moreover, the new equipment should be obtained only after very careful consideration; and only after determining whether or not the new outfit will be used to advantage. In short, it is far more important that the beginner be ready and able to use the new outfit than that he get one. The best camera in the world is of little value in hands that can do no more than use a simple box-camera. True photographic progress is not always a matter of many cameras but rather the individual mastery of just one.

A. H. Beardsley.

## Beginners' Competition

The participants in this department of pictorial effort quite frequently show a degree of artistic ability that is very gratifying. An example of commendable activity is "A Bit of Yale". Comparatively inexperienced—at least, supposed to lack the sound, practical knowledge of an advanced worker and successful photo-pictorialist, the author of this architectural study appears to possess an unusual degree of artistic perception. His photographic skill, also, seems to meet corresponding requirements. A worker of limited knowledge of composition might not think of the advisability to avoid symmetry of design, as in the present instance. Instead of placing the arch squarely in the center of the enclosure, with sides of equal width, our promising artist elects to depart from this principle, with the result that his treatment of the subject is marked by freedom and breadth. Also, instead of making the exposure at a time when the foreground is flooded with sunlight, he preferred to await the arrival of favoring shadows from neighboring trees. The result is a happy one, although, to be sure, the walk beyond the arch is still obtrusively illuminated, and wrongly invites the eye to that spot. Would it



XUM

FILLING THE BUCKET HENRY SILL

SECOND PRIZE—BEGINNERS' COMPETITION

have been possible to delay the exposure until nearby shadows of buildings, trees or bushes could have come to his aid by replacing the present brilliantly lighted areas? Of course, I can make no definite suggestions, as I am not familiar with the conditions under which our picture was made. Perhaps Mr. Kemp did his best in the circumstances; yet it may have been his intention to permit the eye of the observer to rest undisturbed on the interesting side of the structure beyond, or to give a general view—a vista through the arch. If the latter, he has been fairly successful. All the same, he appears to be a careful reader of PHOTO-ERA.

Data: September, 3 P.M.; bright sunlight; 2¼ x 3¼ Kodak; 4¼-inch B. & L. F/6.3 lens; stop, F/8; 1/25 second; Eastman N. C. film; pyro (tray-dev.); print, Artura Carbon Black (Buff).

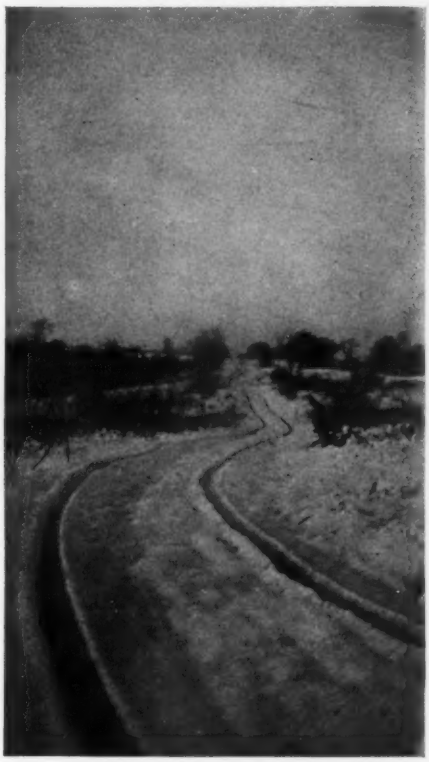
If "Filling the Bucket", by Henry Sill, were offered for criticism to Our Contributing Critics, the first objection would be to what appears to be a row of piles which extends across the picture, at the top. But it seems to me that our young artist must have thought long and hard before he decided to retain it. What his reasons were for not sacrificing this feature, I do not know. After studying this pleasing composition, the discriminating observer may conclude that the row of piles increases the interest of the picture, and breaks what might be considered a monotonous area above the child's head. The novice in pictorial criticism needs only to cover this feature with a piece of paper in order to note the result of its temporary absence, and he will then decide for himself whether it should be dispensed with. As for myself, I should vote to let the picture alone; for to remove the row of piles means to reduce the interest of the picture.

The child, although not assuming the most graceful pose that is possible, occupies an advantageous spot in the enclosure. The costume is happy in its light key and uniformity of tone. The cap might easily have been one of a dark shade and thus have been a distracting object. Thanks to the title, one knows just what the child is doing, as the slightly blurred definition of the hands, and the object they hold, might otherwise leave one in doubt.

Data: Summer of 1923; bright light; vest-pocket camera; Ansco Anastigmatic lens; stop, F/11; 1/25 second; Eastman roll-film; Amidol; print, Wellington paper.

WILFRED A. FRENCH.

# OUR CONTRIBUTING CRITICS



THE ROAD — BESSIE O. JOHNSON

THE PICTURE CRITICISED THIS MONTH

*Whoever sends the best criticism (not over 200 words) before the last day of the current month, will receive from us a three-month subscription to* PHOTO-ERA MAGAZINE.

*The winning criticism, in our opinion, is the first one printed below. Criticism should be helpful and courteous.*

WHAT was Miss Johnson's conception? In the first place, she made a mistake to handle the inclination of the road. Draw a horizontal line one and a half inches high from the bottom. The space under this line has no interest, and I advise the worker to spare it. Next, I will consider the sky, which is too blank and useless for the picture. Cut off one and an half inches from the top. Then the remaining part seems to me somewhat animated; but the space is too oblong. We must find some way to save the print. Let us return and consider what was the point of interest. Miss Johnson must have been moved to release the shutter where the ruts appear to approach each other. Looking over the picture, I may omit three-eighths of an inch from the right without trouble, or, rather, it makes the point clear. But I will do nothing more. The tall tree near the extreme left is rather helpful to break the monotony of the outline of the bush. Now enlarge the remaining portion and, perhaps, Miss Johnson will find a better picture—one worthy enough to keep in her album.

DR. K. KOIKE.

"THE ROAD", by Miss Johnson, is like the proverbial curate's egg. It is good only in places or, in this case, in one place, and that is a small part in the center.



XUM

WANTED—A FRIEND SALOME E. MARCKWARDT

YOUR CRITICISM IS INVITED

No doubt, the beauty of the snow and the curve of the road caught the eye; but Miss Johnson has not induced her camera to make the best of it. To my mind, it were better had the camera been held the long-way and not upright: that it were held level so that the horizon-line were straight (this could have been done by trimming the print), and that it were held higher so as to get the curve of the road with less of a wide-angle effect. Had the exposure been a little longer, the tones would be better and the distant trees appear more distant. The development is about right and not overdone. Then, from the pictorial point of view, we have strong lines leading into the picture, but they only lead the eye to nothing. If there were only a little house, or something, at the end of that road!

If the picture were leveled, then the bottom trimmed off to just below the dark bush on the right, and all the sky cut off except about three-eighths of an inch, we should have a nice little view.

Thanks to Miss Johnson for permitting the criticism; for by criticism we learn.

R. M. Weller.

The great expanse of bleak sky above the horizon of Miss (?) Johnson's "The Road" gives an impression of impending storm. This picture, like many pictures, can be improved by trimming. If one and one-quarter inches be trimmed from the top, the bleak effect of the sky is overcome and the road, the main point of interest, is brought more forcibly to the attention of the beholder. Because of the position of the camera, with reference to the curve in the foreground, the road does not have the proper perspective. This can be remedied, and the distracting influence of that dark bush in the right mid-ground removed, by trimming one-half an inch from the right side. This will split the bush, and it will lose its individuality and appear to be a continuation of the low shrubbery on the left of the road. The road itself will regain its perspective and the uneven rut on the right will appear more symmetrical.

It is unfortunate that the road seems to be lost in the little hollow in the background. The only remedy I can see for this is to pencil it in lightly, allowing the two ruts to converge just before they pass out of sight through the opening in the trees on the horizon.

The trimming of the picture, of course, would greatly reduce its size; but an enlargement would restore this, whereas the softening effect of an enlargement would greatly improve the general tone of the whole composition. I would not, however, advise an enlargement to more than 3¼ x 5¼, the trimming having reduced the negative to 2 x 3¼. Perhaps, an enlargement to 3 x 5 would suffice.

The effect of the snow is very good, except that a little more light would have brought out the richer whiteness of the snow in the country. This would also have relieved the slight melancholy tone of the picture.

Robert N. Donley.

(*Continued on page 240*)

# OUR ILLUSTRATIONS

WILFRED A. FRENCH

"The Trophy", the frontispiece, is unique in design. The silver-cup—the "Trophy"—conforms to a familiar pattern, which, however, is decorated with a ribbon presumably blue in its original state, although it may have been red because of its dark appearance as rendered. And yet dark blue, yielding to the chromatic correction of present-day sensitised mediums, retains its original tonal value, unless lost in a carelessly made print or, indeed, a poorly executed half-tone. The table-cover with its quiet, ornamental design, serves in a dual capacity with pleasing effect. Nevertheless, the not altogether graceful lines of the trophy and the table find a charming foil in the suspended flower-pot from which extend, in graceful lines, the branches of a vine known, familiarly, as "Wandering Jew". The contrast between the principal object and its affinity—if I may refer to it as such—is delightfully effective in its poetic, almost spiritual feeling. That a print of this emotionally expressive and artistically striking masterpiece of decorative photography was exhibited at two eminent salons speaks well for the wisdom of the committees on acceptance.

Data: June, 2 P.M.; Artificial light, 5 x 7 Studio Camera; 13-inch Wollensak Vitax; stop, F/16; exposure 15 seconds; Eastman Super Speed Portrait Film; pyro (prolonged development); printed on Vitava "K" by projection. Mr. Ogasawara is an Honorary Life Member of the Oregon Camera Club, Portland, Ore.

Our readers are again invited to pay their respects to two triumphant performances in aërial photography by Lieutenant Stevens of the U. S. Army Air Service. The first, page 187, shows Mt. Adams, Washington, rising majestically above cloud-land—"the familiar, business-like rain-cloud (cumulo-nimbus). In the middle distance is a stringy, wisplike elevated fog, and above this is a frozen cloud (cirrus) daintiest and most beautiful of the cloud-clan."

The second, page 193, is probably one of the most magnificent aërial mountain-photographs ever made. It represents, in a supreme technical effort, the precipitous peaks which rise to a height of from 12,000 to 13,000 feet, west of Mt. Whitney. "None of the country shown, over which one must fly in crossing the Sierra Nevada Range at this point, is less than 11,000 feet in elevation. In a hollow among the summits is seen a sapphire jewel—a mountain-lake." Strange as it may seem—and who is there to deny it?—this vast group of mountain-summits conforms conspicuously and convincingly to the rules of pictorial composition. The rugged cliffs attended by the mountain-lake form the principal group of clearly defined objects. The balance is found in the precipitous peak at the extreme right, with peak after peak, and plane after plane, receding from the eye of the beholder in wonderful perspective. The topography and geological aspect of this vast region are displayed with marvelous and awe-inspiring realism. After a while, when wonderment shall have ceased, the observer may give a thought to the extraordinary photographic skill and physical courage of the aërial camerist, Lieutenant Stevens—the man who has produced these and many other equally remarkable and successful aërial panoramas. All praise to him! No data available.

The extent to which the recent solar eclipse was photographed, successfully and otherwise, will never be known. Nevertheless, it may be assumed that the camerists who succeeded in making excellent pictures of the great spectacle, may be numbered among the thousands; for, intelligently observing certain rules for exposures that were published widely and in advance of the event, the average amateur was able to obtain successful exposures of at least several phases of the phenomenon. All the same, completely successful and technically perfect series of photographs, including the corona, were comparatively rare. Photo-Era has received highly satisfactory sets from many of its subscribers. A few of these appear in this issue.

A remarkably fine set is by Mr. Fred Schmid, page 188, who states that he rigged up a wooden box. At one end he attached a 35-inch Goerz Artar lens and at the other end a little camera and shutter attachment enabling him to use either plates or film-packs 1⅝ x 2½. He snapped a number of the phases of the partial eclipse through a dark-brown screen on film-packs, but two or three pictures just before, at, and after totality, were exposed on Gevaert filtered plates without screen. The totality picture he gave about three seconds with F/15 Artar 35-inch lens. Mr. Schmid made the exposures at New Rochelle out of his attic-window.

Another interesting set of eclipse-pictures was made by R. Gorbold, F. R. G. S., F. R. P. S., at New Haven, Conn. Page 189. The exposures were effected by means of an ordinary reflex camera fitted with an Adon telephoto. lens. The prints sent for reproduction were enlargements. The lack of sharpness of the one made during totality, Mr. Gorbold attributes to the fact that it was necessary to give an exposure of ten seconds in order to secure the corona. The others were exposed at 1/1000 second. The plates used up to the time of totality were Wellington Anti-Screen, and during totality Wellington Spectrum, all of the plates being backed.

The pictures of corona and totality, page 190, were made by Lieut. Robert A. Cecchini, at Windsor, Conn.

Data: The light of the corona is very much more intense in a narrow line immediately around the rim of the moon; this forms a ring which is visible before the rest of the corona can be seen. The crescent is very thin and much shortened just before it disappears. Only a minute fraction of the sun's light comes from it. There is light enough, however, to drown out all of the corona except the thin circle of light which corresponds to the band of an engagement-ring. The tiny remainder of the crescent looks round, or nearly round, to the observer's naked eye.

Totality, made with 17-inch lens. F/16, 5 seconds. Corona, made with ditto, F/16, ½ second.

The moment of totality is effectively pictured by T. W. Kilmer, Jr., on page 191. The maker calls his effort a photographic drawing, because the outer corona was put in with pencil as seen at the time through telescope. The eclipse and inner corona were photographed on roll-film with a 2¼ x 2¼ Icarette camera



XUM

fitted with Carl Zeiss F/4.5 Tessar lens used at eye-piece of 2½-inch telescope. Exposure about ten seconds—"hands were so cold that I forgot to count."

Yes; it was an intensely cold day, February 24. I journeyed to Westerly, R. I., and saw the eclipse in all its glory—particularly the beautiful and awe-inspiring corona; but I nearly froze both hands and feet while *enjoying* the great spectacle.

The illustrations which accompany Mr. Hotchkiss' valuable article, pages 194 to 196, may not be works of art; but they are technically superb, and as beautiful to look at as the works of a costly Swiss watch. Besides, they tell the story quite eloquently; and the story is a good one.

Edward L. Harrison, master-architect, archæologist and photographic expert, reappears as author-camerist, and to excellent advantage. The illustrations which accompany the travelog of the average camerist are usually hastily-made snapshots, for which the author or the reviewer feels obliged to make excuses. However, that does not apply in the present instance; for Mr. Harrison is careful, methodical and painstaking in all that he undertakes. A glance at his group of camera-sketches, page 200, would seem to bear out this statement. Each of these reduced pictures will repay studious examination. His view of the Caribbean Sea, page 199, shows that our well-equipped friend has an eye for the picturesquely beautiful. Data are to be found in the text.

His familiarity with perpendiculars and horizontals proved valuable in making this marine, for his water-line is perfectly level!

Claude P. Fordyce evidently believes that his camera-illustrations should correspond in excellence with his slogan, "Getting Good Pictures", pages 202 to 205. So far as technically satisfactory results are concerned, they please the critical observer. His entry into the pictorial field, however, would seem to indicate a lesser degree of success. His "Moonlight-Effect"—the setting sun—is obviously unconvincing, but it must have been a glorious spectacle and fully warranted the camerist to make it his own. The horizon bisects the view, which, in this case, does not tend to good composition. To diminish either half—preferably the upper one—would improve the picture in that respect. To trim from all sides, however—in order to level the water-line—might spell disaster, and bring the present favorable position of the luminary and its reflection dangerously nearer to the right side of the enclosure.

Dan McCowan's illustrations, pages 211 to 214, show painstaking effort, particularly in the camping-scenes. There are not a few outdoor-workers who will sympathise with Mr. McCowan, when one of the horses—page 212—turned its head at the moment of exposure. Had our camerist-traveler found it convenient to use color-sensitive material, with or without filter, the tone-values of his portraits of Indian chiefs, in their multi-colored costumes, would have greater artistic and educational value.

Data: "GLORY OF PAINT AND FEATHERS"—July; 8 A.M.; bright; stop, F/8; 1/25 second. "TATANKA CINCA"—July; 9 A.M.; fairly bright; stop, F/8; 1/10 second. "TAH-OOSA—July, 10 A.M.; sunny; stop, F/11; 1/25 second; enlarged from part of negative.

All of Mr. McCowan's above-mentioned pictures were made near Banff, Canadian Rockies. The camera used was an Eastman Folding Pocket Kodak, 3¼ x 4¼, fitted with a Cooke lens and Compound shutter. Exposures (presumably on roll-film) were tray-developed with M. Q.

In "Morning", page 216, we behold a delightful example of decorative photography—an unusual marine. The use of a filter, here, might have done full justice to the water; but the artist was able to include the clouds and thus add to the pictorial interest of his morning-scene. Are you entirely satisfied with the present position of the water-line, Brother Adderley?

Data: August 8; hazy sunlight; 8½-inch Ilex Paragon lens; stop, F/4.5; 1/100 second; no filter; 4 x 5 Ortho plate; Eastman Portrait Bromide; Amidol.

## Honorable Mention

No. 1, "Beckin Lums", group on page 222, suggests a type of domicile seen in Scotland; but the maker of the print did not give its location. It is capable of yielding an attractive picture with ivy seen hanging around the doors and windows, and a background of woods.

Data: July; 11 A.M.; bright sun; No. 4 Kodak; R. R. lens; stop F/8; 1/25 second; Kodak film; enlarged on Defender Buff Silk; redeveloped.

No. 2, "A Home on the Willamette", appears to be situated high on the banks of the Willamette River. This inviting home, with its attractive setting—trees, a flower-garden and a pretty wooden stairway leading to what may be the river—has been rendered with much artistic skill. The pictorial design rings true, and everything in it is well placed.

Data: Made near Portland, Ore.; bright light; 5 x 7 camera; 8½-inch Century Convertible lens; stop, 16; ½ second; Commercial Ortho Cut Film; enlarged on Etching Brown.

No. 3, "My Home", is more pretentious than any of this group. There is an air of artistic taste and refinement about the place, and the suggestion of a flourishing garden behind the tall, partly screened fence. The house is not shown in its entirety—probably with the intention of including the bushes at the right and more sky which, as may be seen, is filled with clouds. The artistic intent of the camerist is pleasingly obvious.

Data: Made at Litchfield, Conn.; August, 11 A.M.; bright light; 2¼ x 3¼ Graflex; 6½-inch Tessar Ic; stop, F/8; color-screen K2; 1/25 second; Commercial Panchromatic Cut Film; elon-pyro; enlarged on Wellington Chamois Bromide.

No. 4, "An Orchard Homestead", is charmingly rendered despite the somewhat rigid design. The soft quality of the print, gained legitimately, is very attractive and imparts a warm atmospheric appearance to the print that seems to be in keeping with the general character of the subject.

Data: Made near Bloomsburg, Pa.; August, 3 P.M. bright light; 9 x 12 cm. Ica camera; 13.5-cm. Heckla lens; stop, F/8; 10-time color-screen; ½ second; Eastman Portrait Film; Eastman Special Developer; enlarged on Eastman Portrait Bromide White Rough Lustre.

No. 5—last, but not least—"A Smoky Day", is similar to No. 4 in general arrangement, but is quite different in composition and treatment. Whatever is the precise character of the atmosphere, it certainly aided the artist to create a rare pictorial gem. The composition is as pleasing as it is unusual. The dark mass of rich leafage, at the right, is spontaneously balanced by a group of tall trees in the middle distance, at the left. The "smoky day" gave Mr. Onishi an opportunity that he utilised in an eminently successful manner.

Data: Made near Granite Falls, Washington; June 30, 1.15 P.M.; smoky; 3¼ x 4¼ Auto Graflex camera; Bausch & Lomb 8½-inch Ic Tessar; stop, F/8; 1/25 second; Eastman Film Pack; Glycin; print, Defender Velatex; elon-hydro.

# ON THE GROUNDGLASS

WILFRED A. FRENCH

### The Last of Personal Coincidences

ALTHOUGH I seem to have more than my share of unusual experiences, in the form of coincidences, I have concluded to spare PHOTO-ERA readers recitals of any more. Those that have appeared in recent issues should constitute a goodly allowance. Nevertheless, I beg to be permitted to relate the last of the series for reasons that will be appreciated even by those who, before this, may have cried, "No more; enough!"

The concluding feature of my trip to Florida, last February, was a water-trip on the beautiful St. John's River, Florida, from Sanford to Jacksonville—a repetition of a similar treat which I enjoyed in 1887. I passed such old acquaintances as Palatka, Green Cove Springs, Magnolia Springs and, farther on, but on the opposite shore of the river, Mandarin, the winter-home of Harriet Beecher Stowe, the well-known author of "Uncle Tom's Cabin". I recalled with pleasure the brief visit I paid the aged writer, and the successful photograph I made of her home, in 1887. The place happened to be the *last* point of interest of this present steamboat-ride.

Later, during the day, I amused myself solving a crossword puzzle, the *very last* definition of which—in the lower right corner—was, "Last name of author of Uncle Tom's Cabin"!

### A Remarkable Scenic Resemblance

DURING my visit to Florida, last February, I was the guest, with Mrs. French, of Mr. Thomas L. Carpenter, at Crescent City. This growing, little town is prettily situated on the western shore of Lake Crescent. Mr. Carpenter, who is an accomplished photo-pictorial worker, will be remembered by readers of PHOTO-ERA as the author of "Florida Impressions", a beautifully illustrated article which appeared in the magazine in 1921. He owns a charming estate and several extensive orange-groves at Crescent City, where he spends the winter and spring looking after the harvesting and shipping of his golden fruit.

The chamber assigned to us overlooks the garden—which is filled with various native palms, fruit-trees, flowers and shrubs, including a tall and slender Italian cypress—and Lake Crescent, with a densely wooded island in the distance. This view, enhanced by trees and bushes in the immediate foreground, bears a striking resemblance to a vista which I beheld from my hotel-window at Menaggio, situated on the western shore of Lake Como, opposite Bellagio, when I visited that beautiful region some years ago. To enhance the impression is the knowledge that a few miles north from Crescent City is a small and beautiful sheet of water, called Lake Como!

### The Editorial Habit

Friend—"Why didn't you retaliate when the fellow struck you?"

Editor—"I didn't know him, and it is our rule to pay no attention to anonymous contributions."

EXCHANGE.

### When Punning is No Crime

EVERY lively camera club has its humorous moments. Even serious meetings are enlivened by occasional sallies of good-natured wit, and prints offered for criticism do not escape the eye and tongue of the ready humorist.

A new and youthful member of the Union Camera Club was reluctantly showing a very flattering portrait he had made of a young lady in whom he was supposed to be interested. T., puffing at his black pipe, bent forward, inspected the portrait briefly, and, removing his *vade mecum*, remarked dryly, "I should say that he's *idolised* her."

### A Wish that May Be Gratified

As I was sitting in the commodious lounge of the Cocoa House, at Cocoa, Florida, one day last February, I noticed that a middle-aged gentleman, who was sitting beside me, was examining a copy of PHOTO-ERA he had taken from the magazine-table. He seemed to take genuine pleasure in looking it over—not hastily, but deliberately, studiously.

After a while I remarked, "Pardon me Sir; but are you a camerist?" Slowly turning a page, he replied pleasantly, "No; but after studying this magazine, I wish I were."

### An Impending Snapshot

OVERHEARD in bus speeding along the Indian River, Florida, in the pelican country.

Passenger (eagerly): "Driver! Is that a pelican sitting at the end of that pier over there?"

Driver: "No Sir; dat's one of dem 'ere camera-cranks."

### The Fickle Hobby

OVERHEARD at the Union Camera Club, last month. A. (an enthusiastic pictorialist and booster for the camera-club): "We missed you at our winter-outing. Where were you?" B. (evasively): "Oh, I was busy installing a radio-set at my house."

A month later. A. "Say! You didn't show up at the last club-meeting. Listening in, I suppose. B. (embarrassed): "No, not exactly. I was working on a hard cross-word puzzle."

What next!

### The Lure of Amateur Collecting

SHE was surprised in the act of appropriating a small silver dish in an art-store. She looked refined, but had succumbed to the habit of taking things, including photographs. In fact she was a kleptomaniac. "What made you take this?" asked the house-detective. Taking a slip of paper from her hand-bag, she handed it to the officer, sadly remarking: "I just couldn't resist the lure. A friend gave me the slip an hour ago urging me to read the book." It was the title of a well-known book, "The Art of Amateur Collecting".



XUM

# THE CRUCIBLE

A MONTHLY DIGEST OF PHOTO-TECHNICAL FACTS

Edited by A. H. BEARDSLEY

## How To Make a Condensed Form of a Small Developing-and-Fixing Tank

THE first thing is to go to the nearest battery station or motorcycle store and get an old worn-out motorcycle battery, which you should be able to procure for fifty or seventy-five cents.

Take it home, cut off the connectors on top of the battery with a hack-saw or pair of cutting-pliers. Get an old knife, heat it up and cut through the pitch just inside the battery-jar, around each cell. Then take a pair of pliers and pull each cell out separately. If you prefer, have a battery man take the cells out for you at a small charge.

A rag soaked in kerosene will remove the pitch that sticks to the top of the jar. Next, boil out the jar with a strong solution of sodium carbonate. Care must be taken that the jar does not get too hot or it may get out of shape.

Now you have a jar with three separate compartments. Take a knife or something sharp and scratch on the outside, at each end compartment, the letter "D" for Developing and the letter "H" for Hypo. The center compartment is used for a rinse.

Procure from a photographic store, a few film-clips such as are used for tank-development of film packs. These have a small hook on the end which you use to hang on the side of the battery-jar to suspend the film in the jar.

After you have completed the above directions, you will have one of the finest developing-and-fixing tanks you could desire for films up to 3¼ x 4¼ size.

A few hints may not be out of order here.

Each cell in the jar holds about 10 to 12 oz. of water, according to the size of the battery.

For summer this tank is ideal. When developing in hot weather, fill up the center cell with cracked ice and add water to come to the top. This will keep the developer fairly cool. If you have no ice, fill it up with a fresh solution of plain hypo which will also keep it cool for a while.

I use an A.B.C. Developer and use one ounce each of A.B.C. in 7 ounces of water which fills up one cell, and develop for 8 to 12 minutes.

A cover can be made out of a cigar box so that it fits snugly over the top, leaving enough clearance for the film-clip. I just take a cover of an old candy-box, painted a flat black inside, which does as well.

HENRY T. SILL.

## Direct Positives

A NUMBER of the modern printing-processes, such as pinotypy, require diapositives for the production of positive copies. The following method is recommended for producing a positive directly on the same plate by simple development instead of the primary negative: Expose in the usual way and as soon as the negative is sufficiently developed in the dark-room, the plate, completely covered with the developer, is exposed to full daylight. In a very short time the negative is changed to a positive, which is then washed and fixed.—*Camera (Zurich)*.

## Harmonising Hard Negatives

A CORRESPONDENT of *La Photo. pour Tous* recommends a method worked out by Prof. M. R. Namias to remedy the peculiar action of persulphate on negatives developed with certain developers, having often used it with good results. The method consists in transforming the silver-bromide or chloride image and redeveloping only its superficial portions. In fixing the subjacent undeveloped white image, the opacity of the denser parts is reduced. By this method the work is done in reverse order, transforming the superficial layers by the action of a very dilute solution of bichloride of mercury in acid permanganate, into a mixture of chloride of silver and bichloride of mercury and retransforming the white portions into metallic silver by an ordinary developer. The negative is immersed in a bath containing 2 per cent. of mercury bichloride and 5 per cent. of sodium chloride. The bleaching begins at the surface and the negative is removed when the deep blacks, examined from the glass-side, are still black and have not begun to turn gray. After washing, the negative is placed in a 4 per cent. solution of potassium permanganate and 1 per cent. of sulphuric acid which dissolves the black silver while the whites remain almost intact. The negative is then decolored in a 2-per-cent. solution of sodium bisulphite, which dissolves the manganese bioxide which has formed. The negative now presents a white image which is developed in an ordinary developer. Wash without fixing.

## Supersensitising Photo-Emulsions by Preliminary Exposure to Blue-Green Light

ACCORDING to Dr. Neugebauer, the sensitiveness of plates and films may be considerably increased by subjecting them to a preliminary exposure to blue-green light. By doing this the sensitometric curve undergoes a considerable improvement in the direction that its inclination becomes less pronounced in the region of 500 to 520. The employment of blue-green possesses besides the advantage of not striking any maximum point of the sensitometric line when ordinary or orthochromatic plates are used, and thus reducing the danger of fog. It is possible that this method may also be employed with panchromatic emulsions. This operation increases considerably the general sensitiveness. With a preliminary exposure of two to three seconds they have succeeded in increasing 6.4 times the sensitiveness of some plates without causing more than a very slight fog. The result of the experiment has been particularly good with films to make Kinematographic views. If an extreme rendition of details is not sought for in the shadows, the normal time of exposure can be reduced one-half and even to one-third. These preliminary exposures have been made with a lamp of ten candle-power, furnished with a screen allowing only the rays from 480 to 510 to pass, and that at a distance of 75 centimeters. These screens are, of course, of special composition.—*Post Tenebras Lux.*



XUM

# THE STEREOPHOTOGRAPHER

## Viewing Stereo-Positives and Prints

STEREOSCOPIC photography is one branch of the great art which never loses its appeal. The converts to this method are constant; but they remain isolated except in those few cases where we have clubs formed of stereoscopic enthusiasts. Perhaps one reason is that the usual photographer can publish his work in periodicals and thus let others enjoy that which has given him so much pleasure in creating.

Any of the more ordinary methods of photo-reproduction are unsatisfactory to make stereoscopic views; for in the enlargement, incident to viewing these reproductions, the screen, grain or other mechanical features become obtrusive. The question which now confronts us is that of the method whereby stereoscopic views may be published satisfactorily. The answer lies, not with the publisher but with the reader.

Let us consider the laws which make stereoscopic photography possible. The eyes are separated in the head, so that when any object is seen in nature each eye receives a slightly different impression. The left eye sees more of the left side of objects and the right sees a little more of the right side. If we could see only those portions visible to both eyes, we should not have true stereoscopic vision, but could judge depth only by virtue of habit and of atmospheric depth. Thus we see that the stereoscopic effect is due to those portions of each object which are seen by but one eye.

It is evident that if we make two photographs from points slightly separated, we shall obtain two pictures which will be analogous to the impressions received by the two eyes; but as a photographic lens inverts the image in both vertical and horizontal directions, the negatives must be turned right side up and transposed; that is, the left side is placed on the right and vice versa. The negative may be cut or, as is more usual, a print is made and when dry it is cut in two, then transposed in mounting. The later method is to use a special printing-frame which allows transposition to be performed without cutting either paper or negative.

However, a double print is made which reproduces the impressions received by the two eyes. Now if we can display these two pictures to the eyes, so that each eye shall see but its own picture, we shall obtain the stereoscopic effect. The familiar stereoscope was designed to do this, and it is successful. By prisms and lenses it presents each picture to the corresponding eye; and, in the case of the smaller pictures, the prism is rendered unnecessary as the distance from center to center of the pictures does not exceed the normal inter-pupillary distance.

The stereoscope often proves to be a strain upon the eyes, and is objectionable in other ways. I do not hesitate to say that the fancied necessity to use this instrument was a potent factor in holding stereoscopic photography down. The fact is that the stereoscope is absolutely unnecessary in viewing stereoscopic views.

We know that the focus of the eye is changed when we look at a distant object then at a close one. At the same time, the eyes turn inward toward each other when looking at a near object. Lifelong habit has made these two motions one; but there is no reason that the two sets of muscles which produce these motions should not be trained to act separately. If I may use an example which is rather inelegant, try to rub your chest and pat your head at the same time. If you have never tried to do this you will find that both hands want to rub or pat at the same time; yet, there is no anatomical reason that the analogous muscles should not act independently.

Our stereoscopic view consists of two pictures which in the 4.5 x 10.7 mm. and 6 x 13 cm. sizes have a center to center distance equivalent to the normal inter-pupillary distance. These two pictures represent the scene seen by the two eyes respectively. Now, it is evident that if the eyes be trained upon the horizon which will give practically parallel axes, and that if then the stereo-view is placed before the eyes and the focus of the eye changed without allowing the eye-ball to rotate in its orbit, each eye will see its corresponding view and the result will be stereoscopic vision without the aid of the stereoscope. At first, it will be found most difficult to do this; but the little device I shall describe here will prove a great help.

Obtain two pieces of mailing-tube about six inches long. Have someone measure your inter-pupillary distance and fix these two tubes side by side in such a manner that their inter-center distance is the same as your inter-pupillary distance. Then make a rather thin 4.5 x 10.7 mm. positive with transparent shadows.

Go outdoors where you will have an uninterrupted view of the horizon or other distant point. Look through the mailing-tube device, and look through a transparent highlight in the positive at this distant point. You will then see in the center of vision *one* image of the positive; but it will be blurred. Now relax the eyes; but if this image shows evidence of becoming two images, focus again upon the distant point. Soon, you will find that you will see the positive held at arms length in pure stereoscopic relief. You are merely training the eyes to focus at a short distance without converging. Soon you will be able to accomplish this with the view held at comfortable reading-distance. Then comes the great surprise. When you have trained the eyes to see stereoscopic views without the aid of dark chambers or lenses and at a reading-distance, you will suddenly discover, some day, that you can see them without the aid of the mailing-tube device. Thus it is evident that you will become enabled to see ordinary halftone-reproductions of stereo-views in the true stereoscopic manner, and you will soon be able to do this instantly, at will, without causing more interruption in your reading than any usual single view would occasion.

There is but one further point to bring out which would make photo-reproduction of these views very satisfactory. If an ordinary paper-print is made of a 4.5 x 10.7 mm. negative, and this is then transposed and mounted *without any space between the halves*, the exercises herein described will become far easier, for such procedure will allow a slight convergence in the eyes which is not nearly so trying as a strict parallelism.

Do not try this exercise for more than a minute or two the first day, two or three the second and not for more than five minutes at any time during the first week, as the strain upon the eye-muscles will cause discomfort; but after two or three weeks the eyes will



XUM

instantly accommodate themselves to stereo-views without discomfort. You must remember that any unaccustomed exercise causes fatigue and soreness at first.

I should like each of you who try this successfully to write to Mr. Beardsley; and, if the response is sufficient, I would suggest that each month PHOTO-ERA MAGAZINE carry at least one 4.5 x 9 stereo-pair, that is the two halves of a 4.5 x 10.7 mounted without any space, and reproduced as other photographs are reproduced.

HERBERT C. MCKAY.

### Contrast in Stereo-Negatives

THE old rule to expose for the shadows and let the highlights take care of themselves, will hold good in stereophotography, as in ordinary work. It has sometimes been advocated by stereo-workers to reverse this axiom, in order to avoid excessive contrast in the sky or lighter portions of the negative.

However, this suggestion is but begging the question. The best way to avoid such excessive contrast is by use of soft-working emulsion for negative-making, developing with a formula that tends to give soft results and, in case of paper-prints, to use soft paper.

The stereo must be soft, with long scale of gradation, to be entirely satisfactory. Contrasty prints hurt the eye, literally. Use of such a plate as Seed 30, or Portrait film, developed in either of the following developers, will give a negative with all the detail and with that softness usually found only in portraiture. The developers are standard Amidol and M.-Q.-Borax formulæ, as follows:

| | |
|---|---|
| Sodium Sulphite, dry | 90 gr. |
| Amidol | 15 gr. |
| Water | 7 oz. |

or

| | |
|---|---|
| Hot water (112°) | 5 oz. |
| Elon | 7 gr. |
| Hydroquinon | 7 gr. |
| Sodium Sulphite, dry | 35 gr. |
| Borax, powdered | 70 gr. |
| Water to make | 7 oz. |

Both developers should be used at 65 to 70 degrees and will develop portrait-film, film-pack, or Seed 30 plate in 4½ minutes at the lower temperature and 3 to 3¾ minutes at the higher temperature. The usual developer recommended by any plate-maker, if it is diluted and the amount of alkali diminished, will work more softly; but the above are standard developers that give excellent results.

One other way to avoid this excessive contrast is by employment of well-corrected orthochromatic, or even panchromatic, plates or cut films, and the use of a light, yellow filter such as K-1. A dark or orange-colored filter will over-correct the sky-tones and give false values. The lighter filter will give a truthful rendering of those tones, and, at the same time, will improve the monochrome effect of the foreground.

To sum up the matter, let me repeat, expose fully; but do not give excessive overexposure thereby ensuring muddy, flat negative. Use of a good exposure-meter will make this a matter of certainty. Then use a soft-working developer and do not over-develop, but be content with a negative which shows maximum detail and sufficient density in the highlights to avoid flatness. After all, only experience will teach one what to work for; but it is the hope that such notes extracted from experience of others may make the road shorter and smoother.

CHARLES FRANCIS HAMILTON.

### Photography Aids Airplane-Mapping

Two new instruments, a magnifying stereoscope and a camera lucida, have been designed and built by the Bureau of Standards, Department of Commerce, as aids to map-making by means of airplane-photography.

The stereoscope, built for the Coast and Geodetic Survey, is to be used in picking out triangulation stations when airplane-photographs are used to supply details for a map based primarily on a ground survey. Such stations are generally flag-staffs, church-steeples, and other high objects, which are very prominent when viewed from the ground but are often hard to locate in the photographs.

The stereoscope makes high objects stand up in a very conspicuous manner. Bushes look as tall as poplars and curbs like garden walls. No difficulty is found in locating the desired landmarks. This exaggerated effect is obtained by using two photographs under the stereoscope, these often having been made several miles apart. The instrument is so arranged that the overlapping portions of these two can be brought together to the eyes. It also has lenses capable of magnifying the photographs by from 3.5 to 9.5 diameters.

The camera lucida is used to transfer points to the map in cases where a line-map is to be made and not a photograph. It is especially designed to correct for the variations in scale and for the distortion due to roll and pitch of the plane which are unavoidable in airplane-photography. The photograph, horizontalised and brought to the proper scale, is projected upon the map and the desired points and lines are traced in with a pencil.

### Preserving Photographic Plates

IN reply to a question as to the best means to preserve unused photo-plates and how to treat very old ones, *Il Corriere Fotografico* writes as follows: With the same degree of sensitiveness, those plates keep best whose emulsions give the greatest contrast effects in the prints. The most sensitive plates are the least durable, and it has been observed that they fog more strongly and thus lose much of their sensitiveness. Orthochromatic plates, used with or without yellow filter, do not appear to be inferior to other kinds in point of preservation. In regard to old plates, the best way to utilise them is as diapositives. A. Masson, who has studied hundreds of boxes of old plates of various kinds and makes, has arrived at the following conclusion: "With such plates the exposure should be extended as much as practicable. Before developing, immerse them for some time in clean water. Do not use a rapid developer, or one that tends to discolor quickly, nor be sparing of it. The developer that gives the best results is slow acid diamidophenol, although it does not suit all makes of plates, especially English. Slow iconogen, however, is good when sufficiently bromised. Developers that contain no sulphite are recommended, but they should include some other substance to ensure preservation. Theoretically, clarifying and retarding substances which introduce sulphuric acid in developers could be used to advantage. In any case, developers that give very clear negatives or diapositives are indicated for old plates, with as much bromide as may be necessary to bring out details in the shadows. If fog begins to show in the margins of the plate, development should be suspended at once and the plate well washed before fixing in a new and strongly acid bath."

# THE AMATEUR KINEMATOGRAPHER

HERBERT C. McKAY

## The Amateur Kinematographer

THERE seems to persist an idea among amateurs that the sixteen-millimeter gauge film and the cameras which use it are toys. This is a most erroneous idea and one which I hope you will discard if you now have it. These instruments are very carefully made and are capable of producing work which is in every way comparable to that produced by professional instruments. In fact, the amateur will produce film which will appear to better advantage upon the screen, made with one of these cameras, than he would by employing a professional camera.

Many of us remember the days when the amateur photographer started out carrying an eight by ten outfit with a half-dozen plateholders filled with glass. In those good old days a man must have had the physique of a blacksmith to enjoy photography. Then the Kodak came into being, ushering in the era of small, portable cameras; but for years this was but a makeshift. It is only in recent years that the small pocket-camera with all adjustments and fine lenses has become popular. There are still a number of large camera advocates, but most serious work is done with cameras four by five or smaller. And I am sure that with a tiny pocket-camera costing as much as two or three suits of clothing, no photographer regards these instruments as toys.

Just as the pocket-camera had to have the various adjustments incorporated into it before it received recognition, so the sixteen-millimeter camera could not receive commercial recognition so long as it was not flexible. In this regard, I read recently with great pleasure a catalog of accessories for the Filmo camera which I received from Bell & Howell, the manufacturers.

As you undoubtedly know, the Filmo camera is a fool-proof camera, fixed focus, and no crank or tripod is required. This makes it an ideal camera for the beginner in kinematography; but it is sadly lacking for work of a commercial nature. The manufacturers recognised this and have produced these accessories. The first and most needed addition is a focusing-jacket for the lens which costs but a few dollars. Also the motors supplied for the camera vary. One is supplied which gives uniform exposures at any rate from eight to sixteen pictures a second. This is from one-half normal to normal and is the motor supplied in standard equipment. If desired, a motor can be supplied at a slight additional cost which operates at any desired speed from normal to twice normal and is useful in slowing down subjects which are too speedy. The manufacturers have also added a super-speed model which makes one hundred twenty-eight exposures per second or eight times normal. This will make beautiful slow-motion studies and motion-analysis film. This great speed requires the greatest available lens-aperture, so a lens is supplied which has a maximum opening of F/2.7.

No camera is really flexible until various lenses can be used with one instrument. The Filmo camera is now supplied with extra lenses for various kinds of work. These include 25 m/m, F/2.7; 25 m/m, F/3; 35 m/m, F/3.5; 3½-inch, F/4.8; 4-inch, F/4; and a 6-inch, F/4.5. The six-inch lens is six times the focus of the normal lens and is good for extreme telephotography. Finally, the camera is fitted for use on a tripod if desired and a title-board with removable celluloid letters is supplied. Thus with the focusing-jacket, a 25 m/m lens, a 3½-inch and a 6-inch lens, tripod and title-board, the Filmo becomes a true commercial camera. In fact, many commercial kinematographers are using this camera now, for film can be supplied to the consumer at far less cost. This will tend to popularise the commercial uses of the sub-standard camera. Mr. Karl Barleben of Boston has advised me that he obtained a picture of the Prince of Wales only because he had the small camera without a tripod which he carried with him. The course of the drive of the Myopia Hunt was changed and the regular kinematographers with their heavy equipment lost out entirely.

When working in the summer sun in the South, or in the coming summer-months, remember that film is sensitive to heat and if the camera is left in the sun the film may curl or "buckle" and refuse to ride through the gate. This not only causes film-waste, but is likely to strain the delicate mechanism of the shuttle.

The choice of a sub-standard camera will widen in scope. The Duplex Company, who have long enjoyed an enviable reputation as manufacturers of motion-picture machinery, are preparing to place a sub-standard camera on the market, and the Wilart Cinema Company have suspended the manufacture of the professional model with the intention of devoting their entire time to the manufacture of a sub-standard camera. It may be news to some of you that several years ago this company produced the Actograph, a miniature camera which only failed to win popular approval because the film-supply was not assured and because the old procedure of development, printing and development was followed instead of the reversal system.

It has been rumored, but so far I have been unable to confirm the rumor, that two German and one French sub-standard camera will be on the market soon. It is possible that this may mean some novelties and refinements in construction; but my personal opinion is that our present American cameras will be very hard to beat.

Mr. Barleben of Boston suggests a national kinematographer's club, slightly along the lines of the professional society; but to be formed purely for the interchange of ideas and information between amateurs. This is entirely in accord with my own opinion. I believe that an established organisation would be more productive of vital results than the tenuous bond which exists between all of us at present as readers of this department. I should favor a slight fee and an interchange of films. I wish to have your opinion upon this subject. If you are not too busy, just sit down now and write to me about it. Are you for a club or society? Do you favor an annual fee? If so, how much? Do you favor an emblem or other mark of identification so that enthusiasts may recognise each other? What other ideas have you upon the subject? [Turn the page and read the interesting experience of Mr. Barleben when he photographed the Prince of Wales with one of the 16 mm. Bell & Howell cameras. Let us have more items like it—EDITOR.

## "How We Shot the Prince of Wales."

OCTOBER 18 and 23, 1924, were busy days for us. On the first we were to shoot the Myopia Hunt Race, and on the second we were commissioned to get pictures of the Prince of Wales, during his visit at the Tuckerman estate, Hamilton, Mass. We were four in number, with the following equipment: One Akeley camera with slow-motion attachment; F/1.9, two-inch; F/3.5, two-inch; a six, and a twelve-inch telephoto-lens outfit; a Universal; and a baby Bell & Howell 16 mm. camera.

Our starting-place was Salem, Mass. From there we went via auto with our outfits to the race-course. Special stands had been built for us ahead of time; for the Myopia Hunt Race is *the* event of the hunting-season in Eastern Massachusetts. Each man was given explicit directions and we parted, the fourth man going along with the Akeley unit on account of the telephoto and slow-motion attachments. I was placed on a stand some distance from the finish line, but right near a water-ditch and a hurdle. Some distance ahead of me was a brush-covered hill through which the riders were to go. I was to get a "long shot" of the riders for atmosphere as they went over the hill through the brush; then, as they swung down the hill, they were to pass me and I was to get them going over the ditch and hurdle. My companions were to get close-ups of winners, crowds, and other interesting happenings.

Everything went off as planned. I got some great stuff, and it would have been a perfect day had I not missed a spill, off to one side of me. I was shooting the racers, as they came over the hurdle towards me, then I swung the camera around to get them going away from me. It was while my camera was in the latter position that the last man over stumbled and had a nasty fall. This fall would have made great picture-stuff; but I missed it, and haven't quite gotten over the disappointment yet. Anyway the Akeley man missed a fall himself, so I felt a bit better when he told me. Between us we shot about 1500 feet of film.

Moral: Keep shooting until the last man is over and past!

October 23 was a typical Fall day. We were glad, for we were to shoot the Prince of Wales that day. Only three of us went on that trip. When we reached Hamilton, we split up in two cars. This time I took my Universal and the baby Bell & Howell and a Graflex. I well needed an assistant, so the third man went with me. While the Akeley man went to the house to steal shots of the dinner-party with his 12-inch telephoto lens, my assistant and myself took the other car and went to the course over which the Prince was to ride in the drag-hound that was to follow. We no sooner got well within the gates than two motorcycles appeared. A closer look and we discovered that they were State Policemen. This was not so good, for we were set on getting His Royal Highness. So, quickly into the brush we ran and dumped all our stuff on the ground; my partner leaving said stuff and me there and riding off down the other side of the slope out of sight. This was about one o'clock. I lay in the brush watching the police patrol the grounds and several times they came very close to me. Each time I thought to myself—"Well, no pictures today!"; but as I had taken the precaution to wrap my leather-coat around the shiny Universal—which is all polished aluminum—they didn't discover my hiding-place.

Two o'clock came and went without incident. There was only the droning of the motorcycles to break the stillness. Three o'clock came and I began to think I was deserted. Finally, several people came in with cars and parked them, and soon after the police went away. Not until then did I breathe easily. It wasn't long after that until I saw the Akeley man in the Lincoln speeding toward me, and he rushed me out to a spot where I could get a shot of the Prince. Well, as it is in this business, you are either loafing or you're darned busy. I was the latter. While the Akeley man was making slow-motion stuff, I was grinding at normal speed, and between the Universal, the baby Bell & Howell and the Graflex, I had my hands full.

No sooner had the Prince passed from our vision than we were hustled into the car and taken at break-neck speed to a further point where we could again get a shot at the Prince. The Universal magazines were empty, and no time to reload, so the boys dropped me at the brow of the hill with nothing but the 16 mm. Bell & Howell, and sped on to a point of vantage beyond me.

Now the following incident will please all 16 mm. fans. I had the camera strap around my neck, and the camera wound up. Here and there I was getting a few crowd-shots for atmosphere. Nearby there was another cameraman with a Universal all set up, though I didn't give him a thought until afterwards. Suddenly the crowds began to shout, and in the distance came the hounds, followed by the riders. I made doubly sure that everything was O.K. with the camera, as I was getting a bit shaky and my experience with that model was not great. And to make matters worse, it was growing dark. Unexpectedly the chase stopped at the further side of the hill. "They have lost the scent!" I heard several people exclaim. So I rushed down to where they were circling around, saying to myself, "Now I can get some shots of the Prince while he is at ease!" You may be sure that I lost no time in getting close and shooting. I secured many feet of close-ups of the Prince, being not farther than ten or twelve feet away from him. Finally, they recovered the scent, and away they went, with me still pressing the old button until the motor died.

But here's the joke! As they left, instead of going the way they had planned, around the hill and past my former position, they cut almost directly away from that spot. It was then that I again thought of the chap with his Universal all set up. He didn't get one inch of film. Nor would I have, nor anybody else, had I tried to use my Universal or the Akeley. That situation demanded quick thinking and a light hand-camera, *and* motor-drive. So I give credit to the little B. & H. for my success on that job.

I was picked up later in the jam of autos and people and we went to the studio in Salem. It was dark by that time and near supper-time, so we went into a restaurant to eat and exchange experiences of the day. After supper we developed our stuff on a Steineman outfit, and were well pleased with the results. Prints followed the next day. The film is now the property of the Myopia Hunt Club.

KARL A. BARLEBEN, JR.

## Photographs of Eclipse at 17,000 feet

MASTER SERGEANT D. D. JOHNSON: Air Service Tactical School Detachment, Langley Field, Va., with Staff Sergeant H. G. Merson, 20th Photo-Section as photographer, piloted a DH4-B airplane on the morning of January 24 to a height of 17,000 feet for the purpose of making pictures of the eclipse of the sun. They succeeded in getting some very good pictures in spite of the severe cold they had to endure.

# THE MILITARY PHOTOGRAPHER

CAPTAIN A. H. BEARDSLEY, SIGNAL—ORC.

## Air Service Obtains Fine Eclipse-Pictures

SCIENTISTS engaged in the work of gathering astronomical data in collaboration with the Army Air Service at the time of the recent eclipse of the sun, declared that the results obtained ranked with the best ever achieved in this form of investigation. Photographs of the eclipse from army airplanes, flown at high altitudes, were made in different sections of the United States. This work, however, was done on the largest scale at Mitchel Field, L.I., New York, where Dr. David Todd was in general charge of operations. Our Mitchel Field Correspondent describes in the following manner the participation of the Army Air Service in this scientific endeavor:

"The ancient science of Astronomy collaborated with one of the newest, aëronautics, in adding to the sum total of the accumulated wisdom of the ages." This was the consensus of opinion as to the part the Army Air Service played in observing and photographing the eclipse of the sun from Mitchel Field on January 24.

Dr. David Todd, Professor Emeritus of Astronomy at Amherst University and a venerable and distinguished scientist, outlined the data to be obtained, and his presence and efforts placed the observations on a truly scientific basis. In this he was assisted by Mr. William W. Hosp. Another prominent astronomer who made his headquarters at Mitchel Field was Dr. W. J. Luyten of Harvard University.

The morning of January 24 was bitterly cold with high north winds blowing. Activity on the flying line began at five-thirty, and by seven it was evident that the limited facilities for heating oil and water would not permit the entire thirty-five planes to get off the ground in time to carry out their respective missions. The schedule was quickly revised and the ten least important missions eliminated. The last of the remaining twenty-five planes cleared the field a little after eight.

To avoid congestion and the possibility of collision, the 1st Observation Squadron was assigned a point over Danbury, Connecticut; the 5th Squadron over Greenport, Long Island, and the 61st Service Squadron was to operate between upper Manhattan and Poughkeepsie. As a further safeguard during the period of totality all pilots were required to use their flashlights.

Working under instructions from Dr. Todd, Lieut. G. W. Goddard was detailed to obtain pictures of the shadow-bands of the Moon and Dr. S. M. Burka's mission called for pictures of the Sun's Corona. From sixteen thousand feet over Newburgh, New York, Lieut. Goddard, piloted by Lieut. G. C. McDonald, made a picture which will be of interest to science for many years to come. It was made just before totality, and shows the shadows of the moon one hundred miles in diameter with the shadow-bands on its arriving edge and beyond, the reflection of the sun, reduced to a small crescent, in the waters of Long Island Sound. Far in the distance can be seen the bright horizon in the unaffected area. On landing, Lieutenants Goddard and McDonald described the scene minutely to the assembled astronomers and reporters and in two hours the 14th Photo-Section had developed the negative and made a large number of prints. The picture verified their description on every point.

Dr. S. M. Burka and his pilot, Lieut. C. E. Crumrine, suffered a setback before leaving the ground. Dr. Burka was to operate the fifty-inch focal-length camera from McCook Field, and special brackets had been built on the D–H he was to use. In making the final adjustment of this monster camera, the oil in the motor of their plane congealed. There was no time to change to warm oil, so the camera was quickly transferred to another plane and with only a make-shift arrangement to hold the camera in position they took off. From over Greenport, Long Island, they photographed the Sun's Corona and their pictures will also be the subject of scientific discussion.

Including the pictures made from the ground by the Eighth and Fourteenth Photo-Sections, about one hundred views showing various phases of the eclipse and the moon's shadow and shadow-bands were obtained. In addition to this, much scientific data was recorded. All persons connected with the observations were assembled in Post Headquarters at noon and Doctors Todd and Luyten made copious notes from the individual reports.

Anticipating the possibility of clouds, which would have obscured the view of the millions who were watching the eclipse in the vicinity of New York from the ground, a description of the eclipse was broadcast from a radio-equipped plane. While the cloudless sky detracted from the value of this, it served one practical purpose. At The Lighthouse, an institution for the blind of New York City, sightless men and women listened to a voice over the radio which told of an earth suddenly darkened and of a majestic spectacle the only knowledge of which came from the lips of others. This one audience well repaid the Air Service for the effort.

## Selfridge Pilots Photograph Eclipse

THE First Pursuit Group at Selfridge Field, Mt. Clemens, Mich., played a very important part in the photographing of the eclipse of the sun on January 24 for Detroit papers. Two DeHavilands, one piloted by Lieut. Johnson, with Mr. H. V. Wilcox of the reportorial staff of the *Detroit News* as passenger, and the other by Lieut. Rich, with William A. Kuenzel, staff photographer of the same newspaper as passenger, were used as the mediums to obtain permanent views of this phenomenon. Atop a cloud bank 19,000 feet above Lake Huron, the total eclipse of the sun was viewed and photographed.

From a seat some four miles above the mist-hidden waters of Lake Huron, the airmen saw a hurricane of shadow sweep from the west at the rate of two hundred miles an hour and the sky suddenly became a majestic velvet dome of deep blue, in which myriads of stars twinkled with cheerful radiance. During the minute and a half of total eclipse, it was not totally dark above the clouds. The universe seemed blue rather than black, clouds could be traced and the planes were visible to each other because of the flame darting from their thundering exhausts. During these same ninety



XUM

seconds of the total eclipse, the planes had become drenched with dew. On the return trip to Selfridge Field, as the pilots plunged downward into the clouds, this moisture froze and partially clogged the controls with ice, and it was only by exerting their utmost strength that they were able to guide their ships back safely.

After two hours of frozen solitude, part of which time one was seldom conscious of the roar of the motor, land was again sighted and the pilots found themselves, due to irresistible winds of terrific velocity, sweeping in contrary directions and different altitudes, over a point in Canada north of Georgian Bay.

Gasoline was running low and there were approximately seventy-five miles to be flown to reach Selfridge Field. The home-stretch became a desperate race to avoid forced landings in the deep snow and uncharted wilds of Ontario. Lieutenant Rich, more fortunate than his brother officer, won his race by a breathless margin, while Lieutenant Johnson was forced down near Camlachie. Here he was given swift and generous help by the farmers, who supplied him with all gasoline available, about twenty gallons, which allowed him to glide to safety at Selfridge just as the last drops trickled into the good old Liberty motor.

### A Unit of the Photo-Scouts

An outfit of the Signal Intelligence attached to the Division Headquarters consisting of one Captain, two 1st Lieutenants, one 2d Lieutenant (Property and Personnel Officer), three Master Sergeants (one as first Sergeant and two as Chief of Section). Note, this Unit divides in two sections, one for each Brigade Headquarters when in the field. Twelve Technical Sergeants, three Staff Sergeants, three Sergeants, twelve Corporals and ten Privates First Class (Specialists and Laboratory), two Privates (Specialist Cooks), twelve Privates.

The twelve Technical Sergeants and twelve Corporals are the Photo-Scouts, so that each active Infantry Battalion may have two Scouts attached. The three Staff Sergeants divide, one at outfit Headquarters, one in each Laboratory, five Privates with each section, One Private (Cook) with each section.

As to the equipment, there should be three dark-rooms (portable) each to have a developing-room, an enlarging-room and printing-room, equipped with projection-printer, capable of handling 3¼ x 4¼ negatives to 8 x 10, also printers of small size. Special drying-equipment, etc.

There should be enough 3¼ x 4¼ Reflex Cameras, of a folding type to give each Scout an outfit, with necessary replacements; and such other outfit as would suggest itself, from time to time during the building of a service of this type.

Lester E. Higgins, Technical-Sergeant,
Q.M.C. 97th Div. ERC.

### Air Service Reserve Activities in Southern California

Considerable interest is being shown in the new Air Service Reserve Squadron, to be known as the 476th Pursuit Squadron, which is in process of organisation at Clover Field, Santa Monica, Calif. Lieut. H. S. Kenyon, Jr., Air Service, who is in command of Clover Field, states that a full complement of officers for that squadron is almost attained and that in a short while competitive sports and flying-contests, open to the public, will be staged between the new 476th Pursuit Squadron and the 478th Pursuit Squadron, also a reserve squadron at Clover Field.

The 478th Pursuit Squadron enjoys an enviable record in Air Service Reserve circles in that it won a miniature airplane trophy while in summer training last year at Rockwell Field, San Diego, competing in a hotly contested fight with three other 9th Corps Area reserve squadrons. Captain William A. Frye, A.S. (Reserve) commands the 478th and Capt. Peyton Gibson, A.S. (Reserve) the 476th.

Clover Field was the recipient of a completely equipped machine shop, including a drill-press, several lathes and a full complement of airplane repair-tools. The equipment, which is new, is valued at many thousands of dollars and will enable the commanding officer to carry on on a more efficient basis than heretofore.

Regular training for reserve officers at Clover Field is entirely voluntary on their part, and from time to time is entered into enthusiastically by approximately one hundred Reserve Officers in the vicinity.

### The Citizens' Military Training Camps

It is not too early for Regular Army, National Guard and Reserve Officers to work together so that the general public may be fully informed with regard to the value of the Citizens' Military Training Camps to the young manhood of our country. Contrary to the belief in some quarters, to sign up for one of these camps places the boy under no obligation to serve in the army. He is not enlisting. He is merely agreeing to abide by the rules of the Citizens' Military Training Camp and to conduct himself as a gentleman and a good citizen. This is no more than any well-organised private summer-camp requires. Then again, some people have the idea that the boys are filled with militarism and are taught to become eager for war. The facts give the lie to any such assumption. The actual military training or drill takes less time in the daily schedule than do sports, lectures on citizenship and recreation. In short, the boys are given just enough military discipline and drill to make them stand erect, look one squarely in the eye and honor the American flag.

It is with considerable satisfaction that I have noted the large number of boys who have signed up again for this year. They did so before the recruiting campaign was even announced. I happen to be local chairman for the town of Wolfeboro, New Hampshire, and at this writing our quota is already filled. However, we are not satisfied, but are continuing our efforts to make the fathers and mothers of our community understand that the Citizens' Military Training Camps will work with and for the boy to make him what he should be—an erect, clear-eyed, obedient, thinking young man who has learned what it means to be an American Citizen.

### A Helpful Conversational Guide

Among the many camerists who contemplate a European journey, will be some who are not familiar with any of the continental languages. For their special benefit has been issued, by Marlborough & Co., the *Traveler's Practical Manual*, consisting of 144 pages of easy phrases in English, French, German, and Italian on important topics, such as the tourist is apt to use. This handy, little book further contains the *latest* suggestions regarding customs, fees, photography, motoring, baggage, trains, correspondence, weights and measures, European currency; also rules of pronunciation of French, German and Italian. It is the best book of the kind that has come to our notice. The price is $1.00 and it can be obtained from E. Steiger, 49 Murray Street, New York, N.Y.



XUM

# LONDON LETTER

CARINE AND WILL CADBY

Last week a daily paper published photographs of five beautiful English women of today: the Countess of Carnarvon, the Hon. Mrs. Lionel Tenyson, Mrs. Danzil Cope, Lady Loughborough and the Marquise de Casa Maury. These types were shown to prove the truth of Mr. Walter Stoneman's theory that women are becoming more and more alike in their features. To be sure, at first sight, we are struck with a certain similarity of contour of face and features; but then they are all photographed full face, with exactly the same lighting and the same retouching, leaving the mouth isolated and accentuated. In short, they are the work of the same photographer. The flat lighting only slightly suggests the modeling of the face, and when we come to compare them, it is simply the eyes, set rather far apart, that are alike, and at all bear out the suggestion. Mr. Stoneman is no doubt quite right in his statement that the photographs of the women of today are alike; but with the obvious and immense variety of features we see all around us we should be more inclined to ascribe this peculiarity to the photographers rather than to the sitters. A pose, even an expression, becomes a fashion and is quickly stereotyped and does duty in a great number of pictures.

Mr. Walter Stoneman is a photographer who has been entrusted by the National Portrait Gallery with the important work of collecting photographic portraits of present-day men of mark and distinction. At present he does most of the photographs himself, and there is no doubt that he is an excellent photographer (the press has given him a good deal of publicity of late); but it seems to us that this collection would greatly gain in value if it were not the work of only one man. These women's portraits, which he has criticised, go to prove how the work of one individual tends to make sitters look alike, and as this collecting of records of important people is a national scheme of great interest, it should command the talent of the best men in the country.

Mr. Ward Muir, who is at present at Davos, in Switzerland, writes us that the sunshine there has been all that the photographer can desire; but there is still need of more snow, even from the point of view of the camera. But the shortness of snow is a serious drawback to ski-runners, especially now that so many people go to the Alps for winter-sport. Mr. Ward Muir had a perfect boom of winter-sport photographs in the press this year, and has gone to get more. He has been discussing with others the subject of press-photography in the photographic papers. His idea is that this field is virtually closed to the amateur, who has no chance of competing with the professional with his well-appointed army of developers, printers, etc., at his back; but that there are great possibilities in the field of what Mrs. Rufus N. Mallinson calls Illustrated Journalism, and it is here that the amateur has a chance to beat the professional; for it needs just the time and deliberation that professionals cannot give. It is, in fact, in this age of specialisation, a distinct branch of work for which the average skilful amateur photographer is already half-equipped; and if he can also put pen to paper satisfactorily, it is only experience that is necessary to get to know what subjects will be acceptable to the various papers.

The Royal Photographic Society had an interesting meeting last month, when a paper was read by Mr. Swan Watson on the Portraiture of Men, which stimulated a very interesting discussion. Mr. Swan Watson had come all the way from Scotland to give the lecture, and his effort was much appreciated; for the attendance was good and Mr. J. Dudley Johnston, the president, was in the chair. Of course, the difficulty with such a big subject is to condense, and to waste no words on what has been said so many times before. This the lecturer succeeded in doing. He dwelt more on the psychological than the material side of portraiture, and enlarged on the necessity of not confusing character and expression. And so our preconceived ideas of the value of an instantaneous exposure were knocked on the head. We could not help agreeing with him; for one has only to remember Mrs. Cameron's portraits of the far-off, old wet-plate days, some of which had exposures of many minutes, to recognise the revealing quality of long exposure. Also, although Mr. Swan Watson did not emphasise the point, there are other delightful results of full exposure, such as the atmosphere obtained in the shadows and all low-toned parts of the picture, which no snapshot will render.

Governments in this congested little continent are waking to the importance of controlling air-photography over their countries. With this end in view, the Belgian authorities have issued a notification with regard to the use of photographic apparatus in aircraft flying over Belgium. There are certain zones, such as the northern and eastern frontiers, the Scheldt-Meuse Canal, etc., in which photography or the carriage of cameras is forbidden outright. In other parts, the use of cameras is permitted only to persons who hold a special license issued by the Ministry of National Defence, which, if held by a foreigner, is good for three months. The person in charge of the aircraft is responsible that those on board who have cameras are in possession of this special license, or that any cameras carried by passengers who have no license are stowed away in a place under his supervision.

To the outsider these regulations seem unnecessarily severe; for surely, to do work that could be useful to the prospective enemy, one must have special apparatus and skilled handling. The tourist's hand-camera could hardly record accurately the lay of the land. But no doubt the authorities know best, and the globe-trotter must be denied the graphic reminiscences of his first flight in order to protect a small and a brave country.

The experiments in the transmission of photographs by wireless between the States and this country, conducted by the Marconi Company in conjunction with the Radio Corporation of America, have been followed with much interest here, and a new exhibit, illustrating the process used, has been placed in the Science Museum South Kensington. It shows a photographic film of the Prince of Wales which was actually used at the Marconi telegraph office in London for the purpose of transmission—a photograph of the portrait as it was received by wireless in New York, and a copy of one of



XUM

the American newspapers in which it subsequently appeared.

In time to come, when the Prince is an old man, and many more photographic and other mechanical marvels have slipped into everyday use, this exhibit of one of the very earliest experiments in what we consider an almost uncannily wonderful development will, we must suppose, be viewed with tolerant interest as almost child's play by our descendants.

### Our Contributing Critics

(*Continued from page 228*)

In writing criticisms of pictures that appear monthly, it has been my aim to write helpful ones. I have tried to write one of that type of "The Road", but it appears impossible.

The one main fault with "The Road" is that it has too much foreground. This can easily be spared because, as the picture stands, the horizon is in almost the exact center. The proper trimming seems to be one and three-eighths inches from the bottom and one-quarter inch from the top. This trimming however, centers our interest on the tree-masses and, as these are found to be out of focus, the result is nil.

If this picture was remade on a brighter day, in such a way as to eliminate the blank foreground and using a smaller stop to obtain greater depth of focus, I feel that the result would be quite worth while.

S. B. Priest.

The naming of the picture is well chosen, for the road stands out as a typical country-road, leading off into the distance, probably to some old farm-house. In fact, the road is, perhaps, almost too prominent to make the most pleasing picture. Had the maker trimmed the picture about three fourths of an inch at top and bottom, a more pleasing effect would have been obtained. As the picture now is, the immediate foreground is a little fuzzy and out of focus, while at this point it should be the sharpest. Upon close inspection, one can clearly see that the point of focus is several yards ahead. Also, the sky appears to be whiter than the snow, whereas, in reality, it should be darker. We think that if a skyshade had been used, the desired effect would have been obtained. The picture shows very good perspective; but I should like to see a trifle more contrast, which could be obtained by prolonging development somewhat. This would bring out the whiteness of the snow a little better and make the bushes in the foreground more distinct, With these few corrections, a picture of much merit could have been made out of a very ordinary scene.

P. C. Schwarzman.

If there is any criticism to be made of the tones of this print, I am not sufficiently expert to be able to make it. They seem to me almost perfect; but I consider the picture as a whole would be more pleasing if it had been made from a position a few feet to the left, to avoid the foreshortening of the road in the foreground. Again, this picture may be perfectly trimmed, but it gives the impression of sloping in the opposite direction from the slope of the horizon as seen in the view. In other words, it gives the uncomfortable impression that the picture is flowing downward, toward the right.

C. J. L'Ami.

The road is actually wider than the width of the picture, and rapidly dwindles away to very modest proportions. Too short focus a lens, and it included too much space in picture. If this portion of road must be used, photograph it at greater distance.

The sky occupies virtually half of the picture-space. The snow lacks the brilliancy and sparkle which are so alluring to the eye and yet so hard to obtain on paper. Had the snow been broken up, it would have assisted in giving highlights and shadows, and more truthfully suggested a road. Sky and snow are too nearly of the same tone.

At a point on the left, just under first small, dark-topped bush, cut almost parallel with skyline. Use enough sky to give picture approximately 1¼ x 2½ and make it horizontal instead of vertical, as at present. Cutting across on an angle will avoid the appearance of road sliding out picture. Probably made on hill-side with sloping skyline, but not specially pleasing. Enlarge this and it will result in better proportions and a road that is not unthinkably distorted.

Frank Reeves.

### Retouching Smooth Prints

When the smooth surface of a print will not take retouching with water-colors, if the surface is simply rubbed with pure oil of turpentine and this is wiped off with a cloth and what is left of the oil is evaporated by heat, a slight deposit of resin is left on the print which will now readily take the water-color.

Exchange.

## COMING EXHIBITIONS

April 4 to 18, 1925. First Annual Exhibition, International Circle of Pictorial Photographers, Walker Art Gallery, Liverpool, England. Honorable Secretary James Rowatt, Room 30, Central Buildings, Liverpool, England.

April 11 to 13, 1925. First Exhibition of Pictorial Photography under auspices of Seattle Camera Club to be held in Seattle Japanese Musical School, 316 Maynard Ave., Seattle. Secretary, Dr. K. Koike, 422½ Main Street, Seattle, Washington.

April 17 to 26, 1925. Hammersmith Hampshire House Photographic Society, tenth annual exhibition of pictorial photography, to be held at Hampshire House, Hog Lane, Hammersmith, London W. 6, England. Entry-blanks may be obtained from exhibition-secretary, Mr. J. Ainger Hall, "Norton" Ruispil, Middlesex, England. Last day for receiving prints, April 2.

May 10, 1925. V Salon International de Fotografia de Madrid. Last day for receiving prints May 10, 1925. Further information may be obtained from Secretario del Salon International de Fotografia, Real Sociedad Fotografia, Principe 16, Madrid, Spain.

May 15 to June 15, 1925. Second International Salon of the Pictorial Photographers of America to be held at the Galleries of the Art Center, 65 East 56th Street, New York City. Last day for receiving prints, April 18. Address all communications to John H. Kiem, Chairman Exhibition Committee, Art Center, 65 East 56th Street, New York City.

# HERE, THERE AND EVERYWHERE

**To ensure publication, announcements and reports should be sent in not later than the 5th of the preceding month.**

### W. S. Davis Receives Merited Praise

In the December, 1924, issue of *Revue du Vrai et du Beau*, published at 12 Rue Royer-Collard, Paris, we find two reproductions of paintings by our friend William S. Davis and nearly two columns of text devoted to a description of his work with the brush and with the camera. The occasion of this reference to Mr. Davis' work was the review of L'Exposition de Newport. We are glad that the years of effort and hard work are bringing their reward.

### Not in Competition with Aërial Photographic Companies

It may be stated that whenever a privately owned and properly equipped aërial photographic company can do the work now being done by the U. S. Air Service, the War Department will not allow its planes or personnel to be used. It is the policy of the government to foster and to encourage the growth of privately owned aërial photographic concerns in all parts of the country.

### There is a New Wollensak Leaflet

Sometimes more information is gained from a few short, carefully written sentences than from a number of paragraphs. This is the case with a new leaflet issued recently by the Wollensak Optical Company of Rochester. Any reader who wishes to be well informed on this firm's product in a very few moments will do well to obtain this attractive leaflet.

### A Focusing Microscope from Vienna

Recently we were presented with an automatic focusing microscope with which to view the image on the groundglass of a camera. By means of a rubber suction-collar it sticks firmly to the surface of the glass and thus enables the observer to view the focus of the image. It may be placed anywhere on the screen and is readily removed. Siegfried Wachtl, Newbaugasse 36, Vienna, Austria is the inventor. Perhaps he does not realise the large number of roll-film cameras that there are in the United States and how comparatively few persons use a groundglass at all with which to focus.

### New Photo-Paper Firm is Organised

Certificate of incorporation was received recently and officers were elected for a new corporation to engage in the field of manufacturing sensitised photographic papers, and to be known as the Wilmot Company.

In its president, Frank Wilmot, this infant corporation in the already large family of Rochester manufacturers of photographic supplies, has a man who is well known throughout the photographic trade as one of the pioneers in the manufacture of sensitised paper.

Other officers are: Vice-president, Charles C. McCord; secretary-treasurer, Charles A. Brady. The new company is incorporated in New York state and is capitalised for $100,000.

Mr. Wilmot has been closely identified with the photographic paper industry since 1890, when he began with the Eastman Kodak Company. For twenty-three years he was president and general manager of the Defender Photo-Supply Company of which he was the founder. After severing his connections with the Defender Company, he became vice-president of the Haloid company, and later was connected with the Rectigraph company, which specialised in the manufacture of photographic copying papers. The finished product is expected to be on the market in the near future.

### Dr. Bigelow Will Open Girls' Camp

Our readers are familiar with the splendid work being done by Dr. Edward F. Bigelow, president of the Agassiz Association, Sound Beach, Conn. In order to increase the usefulness of the association and to obtain more revenue, Dr. Bigelow will open The Cornucopia, Home—Camp—School, for girls during July and August. The tuition will be moderate and we hope our readers who have daughters will get in touch with Dr. Bigelow.

### A Subscriber Wins $300 Prize

Many of our readers will recall the name of M. J. Burelbach, Chattanooga, Tenn., who has frequently entered pictures in our competitions and has proved to be a very enthusiastic worker. We are very glad to report that he recently won the $300 Grand Prize offered by the Shakespeare Company. He very kindly referred to Photo-Era Magazine as having helped him in his photographic career and ended his letter with the statement, "Of course, I couldn't do without my Photo-Era.

### Photographic Activities at the Brooklyn Institute

The one-man exhibition at the Brooklyn Institute during February was of the work of Nicholas Haz. Mr. Haz is a portrait-painter turned photographer and his work reflects his artistic training and study, particularly in the treatment of shadows in portraits. This was noticed in "The Picture Hat" and "Frania" two charming studies of large heads with shadows, deep but filled with detail and almost luminous in quality. One very striking head "Olga Barabini" had strongly contrasting light and shade with very few halftones. Among his portraits of men were noticed "Charles A. Wagner" and an unusual study of the late George Bellows in his studio with an easel and frame. Other pictures included some dancing-figures, some lively children, and interesting character study of a Texas Ranger who looked like a Spanish bandit, and "Greeting Ladies, Greetings" a clown in theatric pose. Mr. Haz spoke on composition before Miss Lauffer's class and suggested some different angles in his point of view. He dwelt most particularly on



XUM

simplicity and maintaining a center of interest in composing a picture, and suggested ways of emphasising this center of interest. Afterward he demonstrated his ability as a critic by criticising prints submitted by the class.

Mr. Zerbe's class had a Sunday portrait-session, and had good opportunity to use the new artificial lights whose construction he has demonstrated to them this winter; for it turned out to be a dark and rainy day.

### The Twelfth Pittsburgh Salon

THE catalog of the Twelfth Annual Pittsburgh Salon of Photographic Art, held March 3 to 31, 1925, has come to our desk. It lists 334 prints from eminent pictorial workers in Great Britain, Italy, Spain, Austria, Poland, Norway, Australia, The Bahama Islands, Canada and the United States. It contains exquisite halftones of print, by John A. Whitehead, Lionel Wood, F.R.P.S., and Anson Herrick. A tactful and effective innovation—no prices are given to any of the prints. Instead, a notice, printed in large type, appears conspicuously in the catalog—"MANY OF THE PRINTS ARE FOR SALE. IF INTERESTED INQUIRE AT DESK.

This disposes, at this notable exhibition, of the embarrassing question as to prices of photo-pictorial works of art.

W. A. F.

### Standardising Lens-Symbols—Will You Co-operate?

OUR attention was called to the fact that in one issue of PHOTO-ERA MAGAZINE there were six different forms of expression for the speed or F-value of a photographic lens. The subject was mentioned not to criticise but rather to suggest that it might be well to look into this matter. Is there no standard that may be adopted? It would seem that manufacturers, photographic supply dealers and writers could agree upon some form of expression which would be acceptable and thus avoid the present confusion.

PHOTO-ERA MAGAZINE offers its space and co-operation in helping to bring the subject to the attention of its readers. Moreover, it invites manufacturers, dealers and writers to make constructive suggestions and offer helpful comment in the form of letters or short articles. Please remember that it is not the purpose of this invitation to begin an argument. Let all correspondence be aimed to reach the objective; namely, one form or system to mark lenses which are manufactured or used in the United States. Let us have a frank, good-natured exchange of ideas which may lead to some constructive accomplishment. Will you co-operate by giving us your suggestion?

### Burroughs Wellcome & Co.'s Exhibit at Olympia

THE photographic exhibit of Burroughs Wellcome & Co., at the Ideal Home Exhibition, Olympia, London, England, showed interesting examples of work done with "Tabloid" Photographic Chemicals. For example, the bromide enlargement of Frozen Lake Camp, with Mount Everest in the background, reminded the observer of the important part played by the firm's products in illustrating one of the most heroic epics of modern times. "Tabloid" "Rytol" has, in fact, been the chosen developer of the official photographers of the three recent Mount Everest expeditions. Since its introduction, "Tabloid" "Rytol" Developer has enjoyed the confidence of the most famous photographers including those associated with royal tours and historic expeditions such as those of the King, the Prince of Wales, the Duke of Connaught, Scott, Shackleton and very many others.

"The Taj Mahal by Moonlight" was the subject of a second enlargement realistically toned with "Tabloid" Blue Toner, and a third provided an example of the rich browns obtainable with "Tabloid" Sepia Toner. Other photographs illustrated the use of various "Tabloid" Developers, "Tabloid" Chromium Intensifier, "Tabloid" Ammonium Persulphate, "Tabloid" Potassium Ferricyanide and "Soloid" Photographic Stains.

The simplicity of present-day photography, as compared with its complexity in the past, was strikingly demonstrated by an exhibit of an old-time bulky photographic chest, comprising the essential chemicals, solutions and scales in contrast to the compact modern outfit of "Tabloid" Photographic Chemicals providing all necessary materials for developing and fixing.

A practical demonstration of the ease with which correct exposure can be calculated was given by means of a giant model of the "Wellcome" Exposure Calculator. This was so arranged that visitors could test the instrument themselves.

### The Demand for a Good White Ink

AT the present time there is a constant demand for a good, reliable white drawing-ink—an ink which may be used to write on negatives, prints and albums. To be sure, there are many white inks to be obtained. Some will do what is claimed for them and others will not. Without in any way disparaging other good white inks, we do know that Johnson's Snow White does all that is claimed for it. We have put it to test in more ways than one. Moreover, it has been in constant use in our office for a number of years. If our readers have tried other inks without success, we are glad to recommend Johnson's because we are confident that it will make good and do all that its maker says it will do, provided the instructions are carefully followed. We might say that Mr. Johnson has made a specialty of white ink and that accounts for the excellence of his product.

### In Good Old New Hampshire

PERHAPS we may be pardoned just a word with regard to some splendid photographs which may now be obtained from the Pratt Studio, Warner, New Hampshire. It has been our privilege to examine the workmanship and the subjects, with the result that we suggest that those of our readers who love the old Granite State, with her mountains, intervales and lakes, will do well to get in touch with this studio and obtain prices of prints for framing. Naturally, we feel proud of our state and proud of any photographer, painter or writer who can do her justice.

MASTERKRAFT PICTURES PUBLISHERS, Manchester, N.H., are in the market for lake, mountain and seashore pictures and negatives of scenic value of New Hampshire and New England, accompanied by title and name of owner of negative. Suitable subjects up to 8 x 10 can be used. Those accepted will be paid for, the others promptly returned. Price should accompany print or negative with permission given for reproduction.

# OUR LETTER-BOX

## Prices of Pictorial Photographs

HAVE read your discussion of prices on artistic photographs with great interest. I am making a good many bromoils now and the ordinary print has been treated with every precaution to make it permanent; not more than twenty-five prints are made from each negative and I furnish a written guaranty to that effect, also in regard to their permanency. I am having some stickers printed to be pasted on the back of the print and will forward one as soon as they are done. The price on my bromoils 11 x 14 is from fifty to sixty-five dollars and the plain print twenty dollars.

WALTER P. BRUNING.

I HAVE read with considerable interest your editorials in the January and February issues of PHOTO ERA MAGAZINE in which you comment on the low price of pictorial photographs as compared to paintings—often of less merit.

There are a variety of reasons for this situation; but it seems to me that the main reasons lie, first: in the fact that very little attempt has been made to educate the public to the value of pictorial photographs for mural decoration; the purchasing public, outside of the professional and amateur photographer, hardly distinguishing between a pictorial photograph and a snapshot; and second: that there are no advertised selling-agencies—the lack of selling-agencies being largely responsible for the lack of demand. How different the situation as to paintings. I pick up *International Studio* or *Scribners*, or one of the other first-class magazines, and I find any number of advertisements of paintings for sale; but I have yet to see anywhere a single advertisement of a dealer who handles pictorial photographs. If I want a Misonne, a Keighley or a Whitehead, for instance, I must follow the cumbersome procedure of writing them individually and asking them as a favor to sell me one of their pictures; and how many, even of those who would like to have some of the works of the leading pictorialists, will take the trouble to do that. Such being the situation, of course there is no demand; and, as we know, price is largely a matter of demand. ERNEST M. CHILD.

I WAS glad to see the question of "how much" raised in your magazine, for it is one of interest to me as an amateur with Tessar tastes and rapid rectilinear income, and very little spare time. For the last three or four years I have had about $150.00 per annum from my hobby, receipts not profit. This has come from sales of my own work and a few enlargements made for others. The latter are easily arranged by charging standard, local prices for the work and I could get a little better very often. With regard to the former, a different policy must be pursued. It is obvious that one is entitled to ask more for an 8 x 10 print of one's own work than for a same size print from another's negative. For my own work, 8 x 10, print, I have asked from $1.75 to $3.00 according to subject and the difficulties involved. For a local view made in the first place for the album and to send to friends abroad, and caught on the fly, as it were, $1.75 or $2.00. For a picture that has required more than one visit or has been under observation for some time, a higher price $2.50 to $3.00 is asked. In this are included architectural subjects, snow-pictures and most landscape-subjects. This, for 8 x 10 enlargement from 4 x 5 negative, and I always tell the buyer that if the print fades or develops stains I will make it good. My fixing-bath is never used for the limit of prints and these are hand-washed, from tray to tray. Mine is all straight work.

With the exhibition-print the case may be a little different. It has been approved by an artistic and independent jury free of local prejudices and preferences, and it seems to me that a higher price is justified.

After all, the amateur's pictures are made for his own pleasure, and it seems to me that while the prices I have given are not high they are not unprofitable, and compare perhaps not unfavorably with the good professional portraitist who purveys 8 x 10s at $25.00 a dozen up. I may add that I have discussed this matter with one of our leading professionals here and my prices are partly the result. Perhaps in the not too distant future I may ask a little more. I'm thinking of it. But when any person can telephone a photographer and get him to photograph almost anything and supply one 8 x 10 print for $3.50 to $5.00, how is an amateur to justify the same charge to an uninterested person for something made originally for his own pleasure.

A CANADIAN READER.

YOUR editorial on the Prices of Pictorial Photographs was very interesting, and Mr. O. C. Reiter's comments on it in the February issue of PHOTO-ERA MAGAZINE seem to bring out one phase that has been overlooked by your other contributors.

Oil-paintings, if subject to innumerable duplication, would not bring the prices they do, regardless of the fame of the artist. Aside from the question of permanency of results, the purchaser of a pictorial photograph—or a picture produced photographically, as I prefer to put it—knows that anyone who has the price may obtain exact duplicates, just as the purchaser of a ready-made suit realises that he may meet his twin on the street at any time. If pictorialists would agree to make but a single print, and sell the negative with the print, or destroy the negative, it would enhance the value of the print as there could not possibly be made duplicate prints.

Also, it would seem to me that gums, oils, bromoils, platinotypes, and similar reproduction processes should bear a considerably higher price than bromides and chlorides. A bromide, even with an admitted life of twenty years, is fugitive when compared with a gum or oil which should endure as long as the paper base endures.

In this connection, I should like to ask a question. I have in my possession old-time portraits made on printing-out paper which are thirty-five or forty years old and, apparently, as bright as the day they were made. And they seem to offer a further life of at least as long. Did our forefathers possess some secret affecting the longevity of their work, or is this question of permanency a myth—speaking now of photographs properly fixed and washed? E. H. BROWN.



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# THE PUBLISHER'S CORNER

## As One Friend to Another

THERE are times in all our lives when we are tested almost beyond human endurance—when business responsibilities, personal illness and loss of loved ones seem to combine to crush out all courage and hope. These situations seem to come in cycles. For a time, all is well; then comes the leaden weight of sorrow or worry; and the blue sky, the birds, the flowers—all nature and man combined fail to bring comfort and peace. But just as all seems to be black despair, there is a rift in the storm-cloud and a bit of blue sky peeps through. We lift dull eyes toward the break in the cloud. Suddenly, a glorious shaft of brilliant sunshine streams out upon the retreating storm; and, ere long, we are made to realise that a Heavenly Father directs our destinies and in His ways there is comfort and peace. A little preachment? Yes. Those of my readers who have not received prompt replies to letters, criticisms of their pictures or who wonder at the delayed arrival of the magazine will understand now; and, I am sure, will wait patiently for an early return to normal conditions.

## Unavoidable Omissions this Month

OWING to the increased amount of material for the Stereoscopic and Kinematographic departments, it becomes necessary to omit our "Picture Market", "Recent Patents", "Book Reviews" and some other items. I am glad to note the increasing reader-interest and hope that it will mean a larger circle of friends who have a common aim—to make a success of photography. Let me add that PHOTO-ERA MAGAZINE is not compelled to adhere to a certain number of pages for each department. When the interest and material in any department demands more space, it shall have it. If interest subsides, there will be fewer pages. It is for the readers to decide.

## The Honorable Mention Group

ABOUT a year ago an effort was made to reward winners of an Honorable Mention by including their pictures in a group of selected entries. This was done in addition to awarding the usual Certificate of Honorable Mention. In practice, this idea had not worked out so well as anticipated. In the first place, as a rule, there are more meritorious Honorable Mention pictures than can possibly be arranged in a group. But of even greater moment is the unavoidable mutilation of the mounts and, sometimes, damage to the prints themselves. Usually, this always happens in cases where the contributor desires that his prints be returned for some special reason. To be sure, according to the rules, Honorable Mention prints become our property; but we are very glad to co-operate by returning such prints whenever it will be of material advantage to our readers. After consulting with a number of our subscribers, I am led to feel that it will be better to discontinue these Honorable Mention groups; and, if possible, devise some better arrangement which will add to the interest in the award without the unavoidable mutilation of the carefully prepared prints. For the present, we will select certain Honorable Mention pictures and publish them as we can find room in our pages. Any suggestions will be very welcome and may they be constructive.

## A Snowdrift Found in Georgia

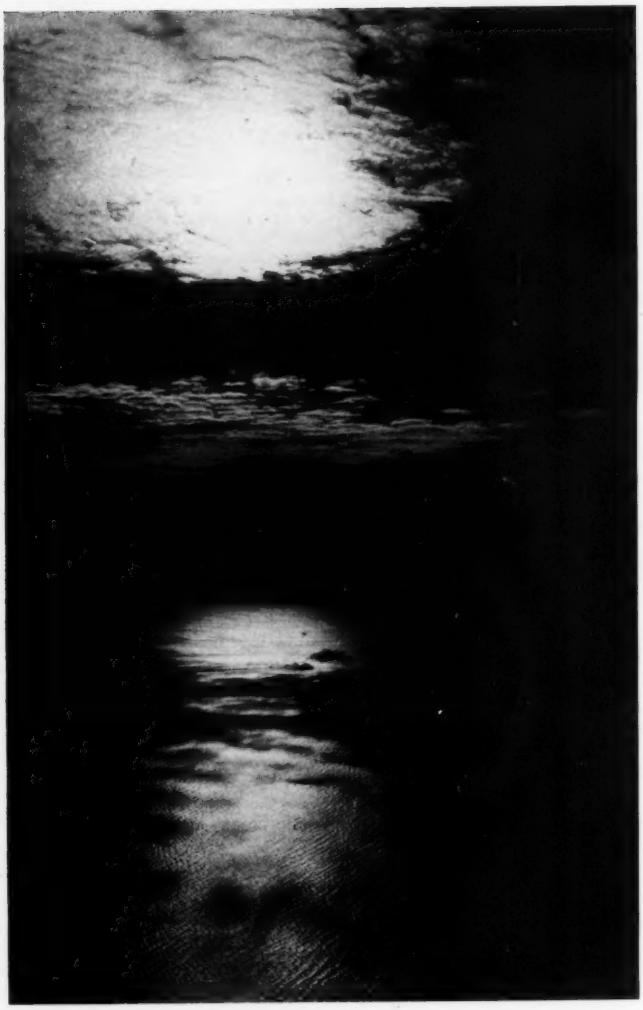
DESPITE the popular opinion that snowdrifts are confined to the Northern States, let me prove by photography that snowdrifts do occur frequently in the sunny south. Perhaps the reader thinks that I refer to the

SNOWDRIFT SIDNEY L. WOLFSON

label on the box. Not at all! The snowdrift I have reference to is the little pickaninny who appears to be wondering what it is all about. This little glimpse of life in Georgia was sent to me by Mr. Sidney L. Wolfson, The Weirs, New Hampshire. It was made in April, 1924 at Savannah, Georgia with a 1A Autographic Kodak, Jr., F/7.7 anastigmat lens, stop F/7.7; 1/25 second. Nothing very pictorial about this little picture, nor is it technically perfect; but then it does have human interest and appeal. Isn't that what really makes a picture after all? Yes, we need composition and technique; but without heart-interest how cold and formal they are—critics notwithstanding.

## Here is Something to Think About

THE number of entries in the Advanced Miscellaneous Competition, which ended February 28, 1925, was greater than for any PHOTO-ERA Competition in recent years. Those who like miscellaneous competitions in preference to a specified subject made themselves felt by sheer weight of numbers. If the majority prefer a miscellaneous competition every month, it will be given them. However, those who like a different subject each month are still to be heard from. Who knows, they may have their way after all.



*(Photographed from U. S. S. Los Angeles)*

APPROACHING TOTALITY
WATSON DAVIS